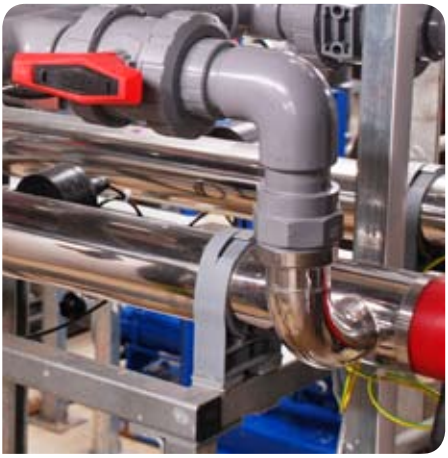


# ABS

Pipe, Fittings & Valves for cooling, chilled water, chemicals and drinking water

Technical Information 2011

+GF+

GEORG FISCHER
PIPING SYSTEMS

## Technical Information

For technical data including operating & control pressures, dimensions as well as the use of accessories, please refer to data sheets which are available in both printed and electronic (pdf) formats from the Coventry Sales Office (details on back cover).

For details of our range of plastic pipe, fittings, hand and actuated operated valves in PVC-U, PVC-C, PP, PVDF, PFA and PE as well as our INSTAFLEX PB and SIGNET measurement and control range, please request Price Lists from the Coventry Sales Office.

# Application Knowledge

## GF ABS

Water, chilled water, cooling, drinking water & chemical conveyance

**Fields of Application:**

Water treatment
Chemical industry
Drinking water
Swimming pools
Marine industry
Food and beverage production
Building services

**Product Range**

Pipes
Fittings
Manual valves
Actuated valves
Jointing systems
Flow, pH, conductivity, turbidity, level, pressure, chlorine and temperature measurement

Available in the widest standards available: BS Inch, EN/ISO metric

EN/ISO - d16 - d315mm

BS Inch - 3/8" - 8"

Application range:

Resistant to bases, weak acids and salts, suitable for drinking water
-40°C to 60°C

Jointing system:

Tangit gap filling solvent cement

## Worldwide Approval

GF ABS is manufactured and tested to the highest quality. Our own compound and strict quality controls for each raw material delivery form the basis for our high quality products.

Our own independently accredited test laboratory for components of plastic piping systems according to EN ISO 45001 assures the highest quality.

Quality and environmental management systems according to ISO 9001 and 14001 are the basis for the continuous improvement of our performance.

Third party approvals for GF ABS offer peace of mind to customers using the products.

WRAS Water Regulations Advisory Scheme

ABS TYPE APPROVAL PROGRAM

BUREAU VERITAS 1828 BUREAU VERITAS

CHINA CLASSIFICATION SOCIETY

DNV

GL OPERATING 24/7

REGISTERED COMPANY ISO 9001: 2000

SYSTEM CERTIFICATION ISO 9001 SGS

Lloyd's Register PRODUCT VERIFICATION

RINA 1861 RINA

**Approved for use within public water supplies and by the Secretary of State. GF ABS is listed in the "List of Approved Products" published by the DWI**

## Distribution, Warehousing and Technical Support

The excellent location of the Distribution Centre in Coventry offers the latest in state of the art distribution and warehousing systems. An enhanced delivery system and 24 hour warehousing programme guarantees prompt delivery to GF customers nationwide.

Our Technical support staff are qualified to offer you advice and guide you through the wealth of products GF can supply. We make sure you feel confident that the product matches your requirements and leaving you fully assured that GF is your preferred supplier.

GF Fleet of delivery vehicles


Tracking delivery of your order

## Automation

GF manufacture a complete range of actuators and actuated valves which includes pneumatic as well as electric actuators. Thanks to their modular design, the actuators can be configured specifically to your application (eg. positioner, additional limit switches, fail-safe unit, AS-Interface connection, etc.) Housing material is robust and resistant PPGF. All actuators are sized specific to GF valves, resulting in an increased service life. Connections to third party valves are no problem due to EN ISO 5211 interface.

## SIGNET

The GF Signet range of flow control and measurement equipment is at the cutting edge of technology in this field.

Flow, pH, level, conductivity, temperature, turbidity, chlorine, pressure and ORP are all catered for within the range.

# Materials used for industrial pipe work

## The material acrylonitrile-butadiene-styrene (ABS)

### ABS properties (reference values)

| Characteristics | Value | Units | Test Standard |
|---|---|---|---|
| Density | ≥ 1.035 | g/cm³ | ISO 1183-1 |
| Yield stress at 23 °C | ≥ 40 | N/mm² | EN ISO 527-1 |
| Tensile e-modulus at 23 °C | ≥ 1600 | N/mm² | EN ISO 527-1 |
| Charpy notched impact strength at 23 °C | 42 | kJ/m² | EN ISO 179-1/1eA |
| Charpy notched impact strength at -40 °C | ≥10 | kJ/m² | EN ISO 179-1/1eA |
| Ball indentation hardness (358N/30s) | 87 | MPa | EN ISO 2039-1 |
| Heat distortion temperature HDT A 1.82 MPa | ≥ 74 | °C | EN ISO 75-2 |
| Vicat-heat distortion temperature B/50N | ≥ 94 | °C | ISO 306 |
| Thermal expansion coefficient | 0.1 | mm/m K | DIN 53752 |
| Heat conductivity at 23 °C | 0.17 | W/m K | EN 12664 |
| Water absorption at 23 °C | ≤ 0.45 | % | EN ISO 62 |
| Colour | similar 7001 | - | RAL |
| Limiting oxygen index (LOI) | 19 | % | ISO 4589-1 |

**General**
Acrylonitrile-Butadiene-Styrene (ABS) is a versatile standard polymer. In addition to its application in piping systems, ABS is mainly common in automotive applications and in high-quality household devices. The wide area of application relates to the versatile characteristic profile of ABS. It can be adapted to the application by varying the composition of its three components: acrylonitrile, styrene and polybutadiene. While acrylonitrile provides strength to the material and gives ABS an improved chemical resistance relative to polystyrene, the styrenic component provides both strength and a quality surface finish. The chemically bound polybutadiene-rubber particles, on the other hand, give the material its toughness and impact strength, even at very low temperatures. The ABS used by GF shows a good balance between toughness and strength, making it especially suitable for low temperature applications. Accordingly the areas of application are mainly refrigeration and air conditioning systems as well as water treatment.

The advantages of ABS include:

- high impact strength even at low temperatures
- corrosion resistance
- simple installation via solvent cement joints
- low heat conductivity
- halogen free
- non-toxic
- biologically inert; no support of microbial growth
- low weight
- low pressure losses due to smooth surfaces
- good abrasion resistance
- problem-free recycling

**Mechnical properties**
In addition to the good strength and stiffness, ABS is especially characterised by a very high impact strength. Impact strength is a measure of impact energy that the material absorbs until it breaks. For this test, a specimen is weakened with a sharp notch and then struck. Without a notch, there is no breakage of the test specimen. The exceptionally high notched impact strength values, even at low temperatures, indicate the material's high robustness and tolerance against surface damage. GF ABS pipes are routinely tested for their toughness according to EN ISO 15493. In this test, a weight falling from, a height of 2 metres hits the pipe that has been cooled to 0 °C. The mass of the falling weight varies, depending on the pipe dimensions, from 0.5 (dn = 20mm) to 9 kg (dn = 225 mm). The high load in the falling-weight test ensures that the excellent toughness of the material is not reduced as a result of processing into pipe. The internal pressure resistance is provided by the hydrostatic strength curve based on the EN ISO 15493 standard (also see the ABS Calculation and Long-Term Behaviour section). The application limits for pipes and fittings, as shown in the pressure-temperature diagram, can be derived from these curves.

**Chemical, weathering and abrasion resistance**
ABS is characterised by its good resistance to various chemicals. In general, ABS is resistant to water, salt solutions and most dilute acids and bases. Its resistance to alcohols, aliphatic hydrocarbons, oils and greases is, however, to be regarded as limited. ABS is not resistant to concentrated mineral acids, organic acids and solvents such as esters, ketones and chlorinated and aromatic hydrocarbons. For detailed information, please refer to the detailed list of chemical resistance from GF or contact your local GF subsidiary. If the ABS piping system is exposed to direct sunlight over a long period, its surface loses its shine and the colour shifts to light grey. Due to the very high impact strength of ABS, the resulting loss of toughness generally causes no problems in moderate climate zones. For extreme weather conditions or very high loads on the piping system, we nevertheless recommend protecting the surface from direct sunlight. In addition to the excellent impact strength, the polybutadiene rubber particles in ABS cause an outstanding resistance against abrasion. Because of this, ABS piping systems have been used for a long time to transport solids and slurries, for example, in mining applications. Experience has shown that ABS, as well as PE, offers considerable advantages over metal and other plastics for many such applications. Please contact GF if you are planning such an application. We would be glad to advise you about the suitability of our ABS, PE and other materials for your media.

**Thermal properties**
The outstanding characteristics of ABS allow its application in a wide temperature range between - 40 °C and +60 °C. At higher temperatures, the tensile strength and stiffness of the material drop and at lower temperatures, they rise. Therefore, please consult the pressure-temperature diagram for your maximum working temperature. As all thermoplastics, ABS shows a higher thermal expansion than metals. This is not a problem if the thermal expansion is taken into account during the planning stage of the piping system. The expansion coefficient amounts to 0.1 mm/m K in the application temperature range.
At 0.17 W/m K, the heat conductivity of ABS is very low. Because of the insulation properties of the material and the resulting savings in energy or insulation, an ABS piping system is notably more economical in comparison to a system made of copper (370 W/m K) or other metals. Should there be a need for additional insulation, e. g. in cooling applications, GF offers COOL-FIT, a system specially dedicated to this market. COOL-FIT it is a preinsulated ABS system that has the advantage of quick and easy installation.

**Combustion behaviour**
ABS self-ignites at temperatures exceeding 450 °C. ABS burns when exposed to an open flame. After removing the flame, the material continues burning. The oxygen index amounts to 19 %. (Materials that burn with less than 21 % of oxygen in the air are considered to be flammable). According to UL-94, ABS has a HB (Horizontal Burning) flammability coefficient and falls into building material class B2 (conventional inflammable, non-dripping) according to DIN 4102-1. Basically, toxic substances are released by all burning processes. Carbon monoxide is generally the combustion product most dangerous to humans. When ABS burns, primarily carbon dioxide, carbon monoxide and water are formed. Tests have shown that the relative toxicity of the products of combustion are similar or even lower than those of natural products such as wood, wool and cotton. ABS combustion gases are not corrosive. Nevertheless, the burning forms soot. Because of this, smoke develops during combustion. Water, foam and carbon dioxide are suitable fire-fighting agents.

**Electrical properties**
ABS has good electrical insulation capacity. The specific volume resistance is 3.5 x 1016 Ωcm and the specific surface resistance is 1013 Ω.
These figures have to be taken into account wherever there is a danger of fires or explosion.

# Design of metric and inch piping systems

## Application area of pipes and fittings

### Pressure/temperature diagram for ABS

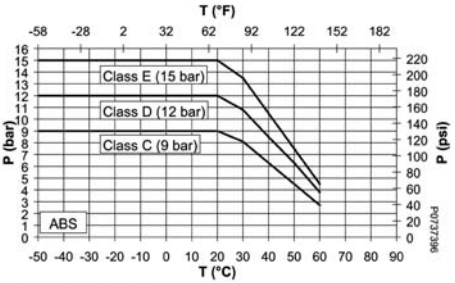
The following pressure/temperature diagram for ABS pipes and fittings is valid for a lifetime of 25 years.
The design factor of 2.1 for inch-based systems and 1.8 for metric systems recommended by GF is incorporated.
It can be used for water or media resembling water, in other words, media which have no derating factor regarding the chemical resistance.

**Remark**: Please take into account the pressure/temperature diagrams for valves and special fittings. Because of the construction and/or sealing material used, differences are possible when compared with pipes and fittings. This information can be found in the planning fundamentals of the relevant types of valves, respectively special fittings.
The influence of the anti-freeze compound has to be taken into account when calculating the allowable operating pressure. Please contact your GF representative for further information.

**Attention**: According to the 10 °C curve in the long-term diagram for ABS, the permissible pressure in the temperature range -50 ° to +10 °C can be
- 7.5 bar for the PN6 system.
- 11.8 bar for the PN10 system.

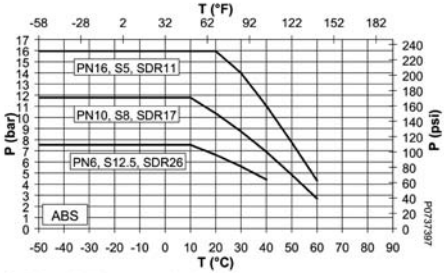
The maximum pressure for the PN16 system has been limited to 16 bar.

**Inch-based systems**




P Permissible pressure in bar, psi
T Temperature in °C, °F

**Metric-based systems**




P Permissible pressure in bar, psi
T Temperature in °C, °F

# Installation of metric industrial piping systems

## Change in length and flexible sections

### Introduction

**General**

Thermoplastics are subject to greater thermal expansion and contraction than metals. Pipes installed above ground, against walls or in ducts, especially those exposed to temperature variations, require changes in length to be taken up in order to prevent extra strain on the pipes. Length changes can be taken up by:

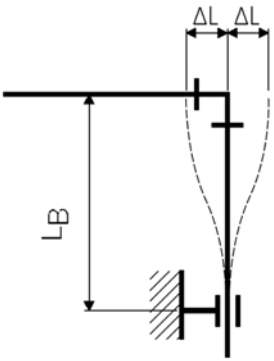
a) flexible sections

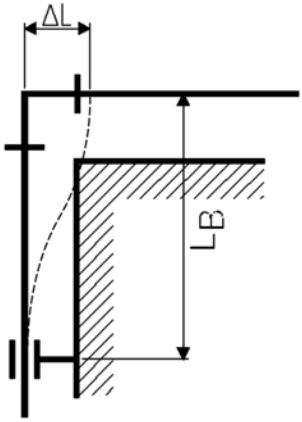
b) compensators

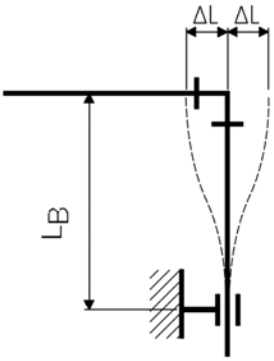
Flexible sections are the most common solution, being the simplest and the most economical. The calculations for and the positioning of flexible sections are therefore described in detail.

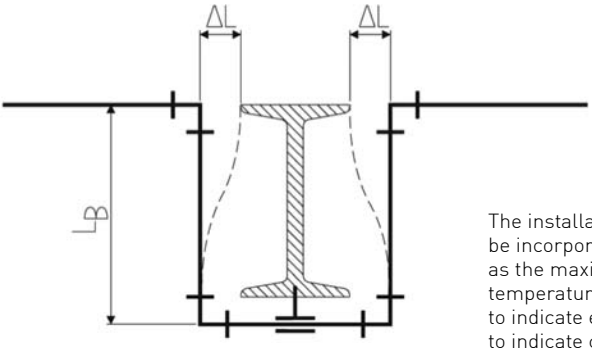
**Fundamentals**

The low modulus of elasticity of thermoplastics allows changes in length to be taken up by special pipe sections, where pipe supports are positioned so that they can take advantage of the natural flexibility of the material. The length of such sections is determined by the diameter of the pipeline and the extent of the thermal expansion to be compensated. Flexible sections arise naturally at any branching or change in direction of the pipeline. The movement LB of the flexible section as a result of a change ΔL in the length must not be restrained by fixed pipe brackets, protrusions wall, girders or the like.






The installation temperature must therefore be incorporated into the calculations as well as the maximum and minimum operating temperatures. It is preferable to use "+" to indicate expansion of the pipe and "-" to indicate contraction. The larger change in length is the one to be used for determining the required length of the flexible section.

**Calculation of change in length**
The **change in length caused by temperature** can be calculated using the following formula:

$$\Delta L = L\ \Delta T\ \alpha$$

with:
- ΔL = temperature-related change in length (mm)
- L = length of the pipe section (m)
- ΔT = difference of temperature (K)
- $\alpha$ = coefficient of linear expansion (mm / m K)


**Coefficients of linear expansion of polymers:**

| Material | α in mm/m K |
|---|---|
| ABS | 0.10 |
| pre-insulated ABS | 0.02 - 0.08* |
| PA | 0.10 |
| PB | 0.13 |
| PE | 0.15 - 0.20 |
| PP | 0.16 - 0.18 |
| PPS | 0.15 |
| PVC-U | 0.07 - 0.08 |
| PVC-C | 0.06 - 0.07 |
| PVDF | 0.12 - 0.18 |

* Exact values can be calculated using GF's online tool or ask your local GF representative.

$$L_B = \sqrt{\frac{3\ d_a\ \Delta L\ E_{cm}}{\sigma_b}}$$

with:
- $d_a$ = pipe outside diameter (mm)
- ΔL = change in length (mm)
- $E_{cm}$= average bending creep modulus for t = 25 a (N/mm²)
- $\sigma_b$= permitted bending stress for t = 25a (N/mm²)

**Tip**: If the operating temperature is higher than the installation temperature, then the pipe expands. If, on the other hand, the operating temperature is lower than the installation temperature, then the pipe contracts in length.

**Remark**: Because $E_{cm}$ and $\sigma_b$ are depending on time, temperature and stress, the calculation of $L_B$ is very difficult. Therefore the following diagrams should be used instead of the formula.

### Boundary conditions for using the diagram

For easy determination of the required length of flexible section please use the following diagrams. Please take into account the given boundary conditions.

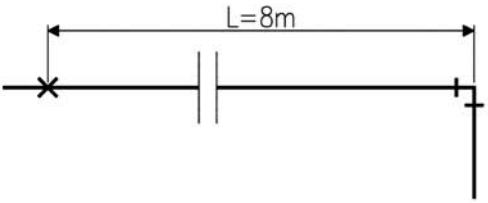
- Assembly temperature $T_M$ = 20 °C
- $T_B$ Operating temperature
- $\Delta T = T_B - T_M$
- allowable bending stress 15 % of $\sigma_v$
- PN 6 .. 16
- Coefficient of friction of the pipe in the loose brackets $\leq 0.5$

**Information**:
The following diagrams show the required flexible sections for straight pipe lengths of 10 m or 70 m. Exceeding the maximally permissible straight pipe distance would lead to buckling of the pipe due to the too large friction in the pipe clamps. Therefore the maximally possible pipe length is to consider depending on the pipe diameter =>above the hatched range.

### Example: Determining the required flexible section

**Calculating the relevant change in length**
The example of an ABS process pipe serves to illustrate the procedure:
Length of piping from the fixed point to the branch point where the change in length is to be taken up:

- L = 8 m.
- Installation temperature: $T_M$ = 20 °C
- Max. working temperature: $T_1$ = 35 °C
- Min. working temperature: $T_2$ = -20 °C




Expansion of the section during heating
$+\Delta L_1 = L \cdot \Delta T_1 \cdot \alpha = 8 \cdot 15 \cdot 0.10 = 12$ mm

Contraction during cooling
$-\Delta L_2 = L \cdot \Delta T_2 \cdot \alpha = 8 \cdot 40 \cdot 0.10 = 32$ mm

Temperature differences
$\Delta T_1 = T_1 - T_M = 15$ °C
$\Delta T_2 = T_2 - T_M = -40$ °C

Maximum change in temperature chosen
$\Delta T = 40$ °C

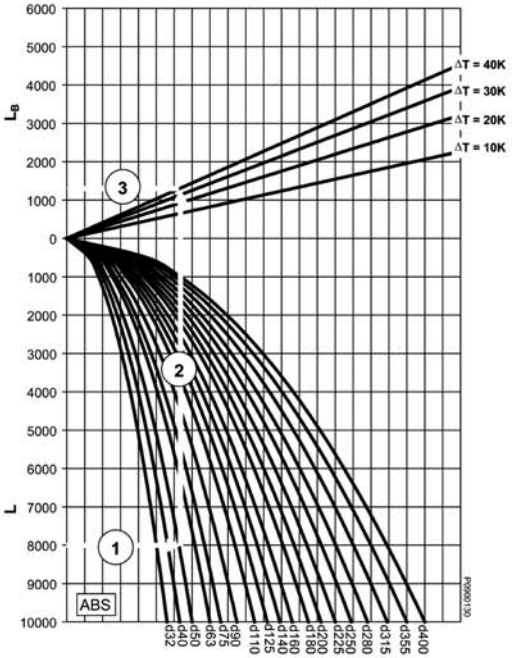
**Determining the length of the flexible section for ABS**

The values needed to determine the necessary length are:

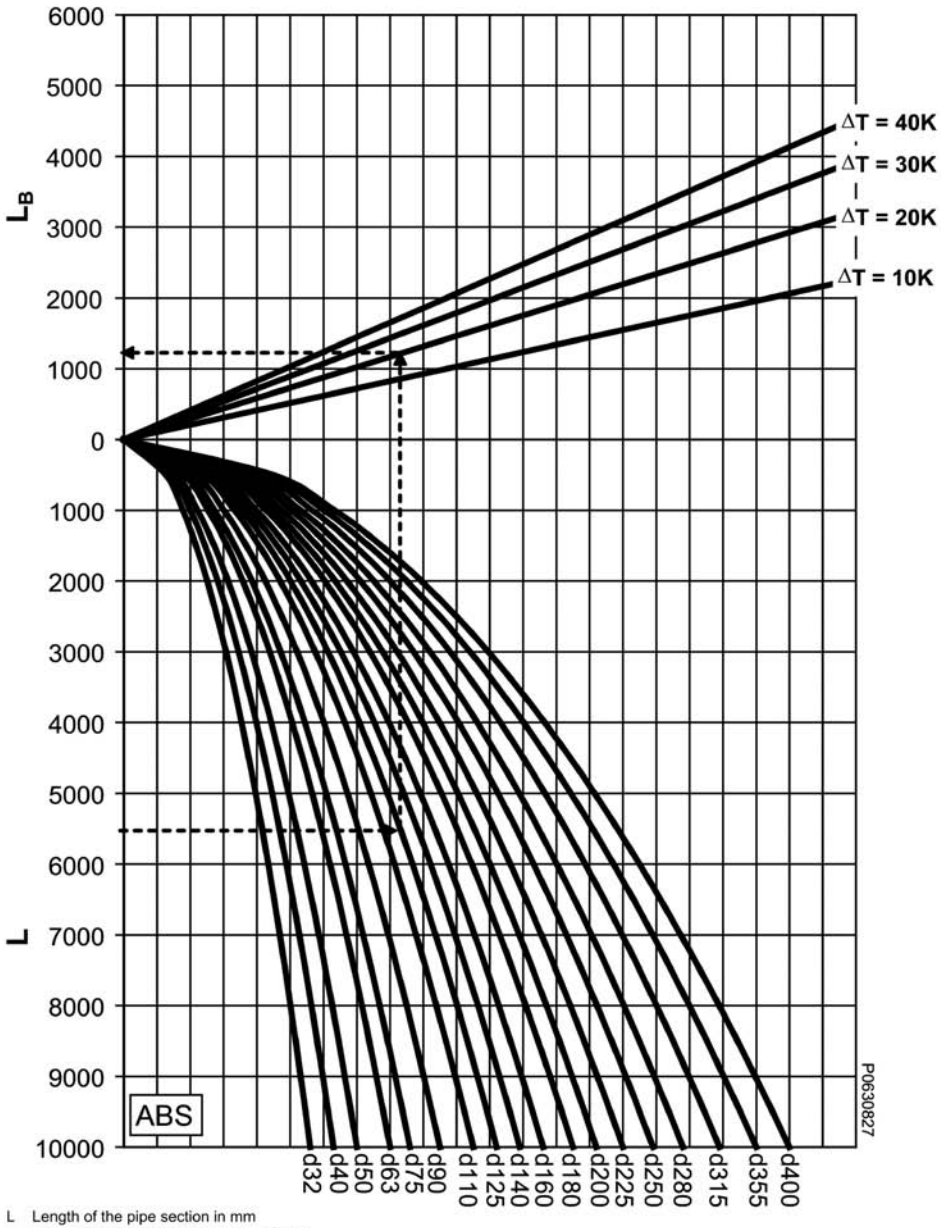
- The maximum change in temperature from the 0-position (i. e. from the position in which the pipe was installed). But remember that the pipe could just as well contract as expand.
- The pipe diameter d.
- The length of the pipe section L.

With these values the required length of the flexible section can be read off from the diagram for ABS.

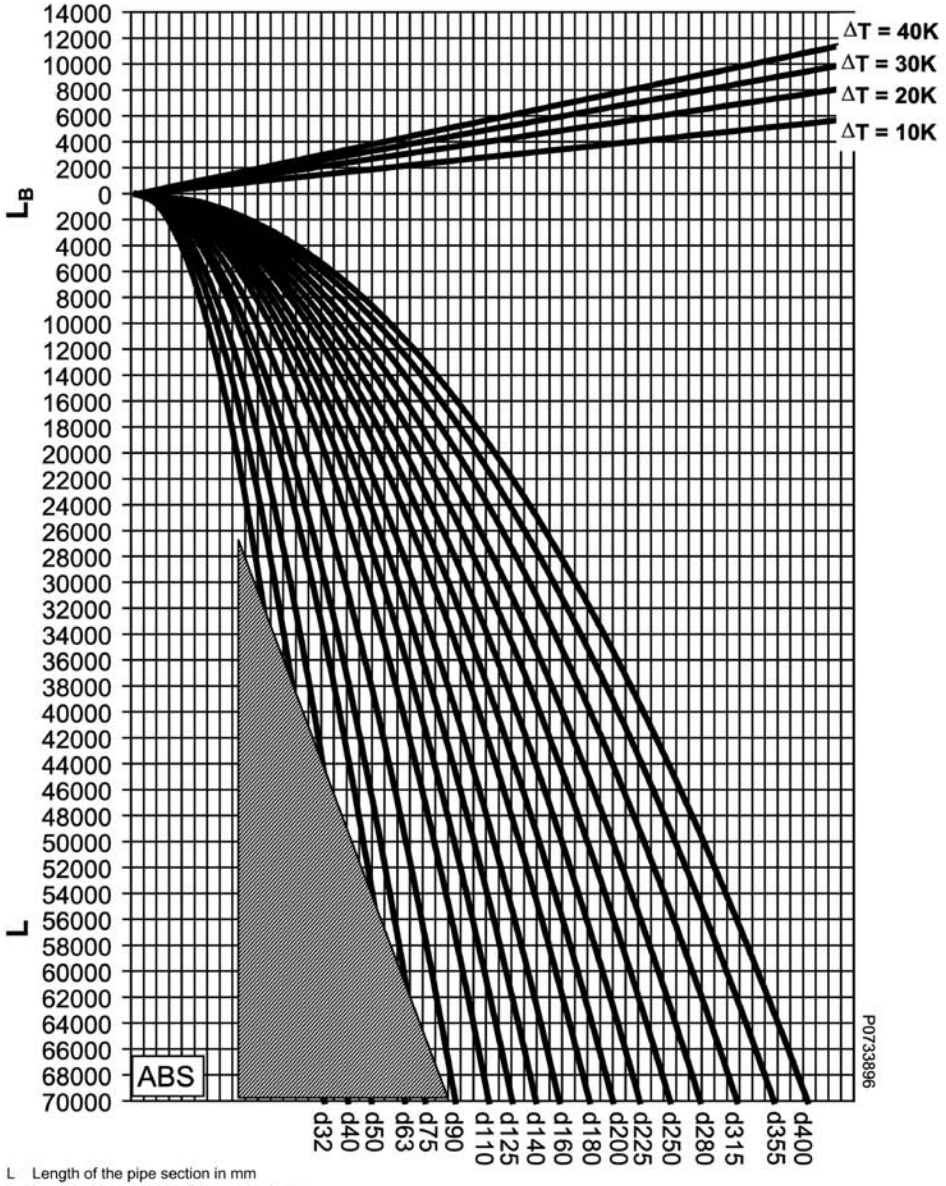
Continuing with the example introduced before and supposing that an ABS pipe with d = 50 mm is installed, the maximum change in temperature being ΔT= 40 °C, the required length of the flexible section is seen directly from the diagram to be $L_B$ = 1300 mm.




The diagram can be used also the other way around, if a maximum flexible section caused by the building construction is given. Then the maximum straight length of the pipe can be determined.




L Length of the pipe section in mm
$L_B$ Required length of flexible section in mm



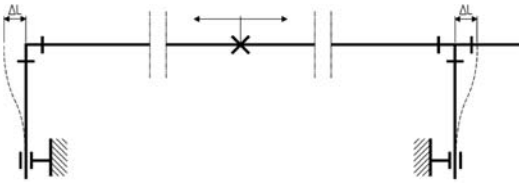

L Length of the pipe section in mm

$L_B$ Required length of flexible section in mm

Remark: Please observe the explanations to the hatched area in the clause boundary conditions

# Installation of metric industrial piping systems

**Recommendations for installation**
Length changes in pipe sections should always be accommodated through the arrangement of fixed brackets. The following examples show how the changes can be distributed in pipe sections by suitable positioning of fixed brackets.

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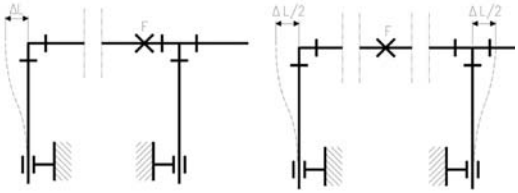
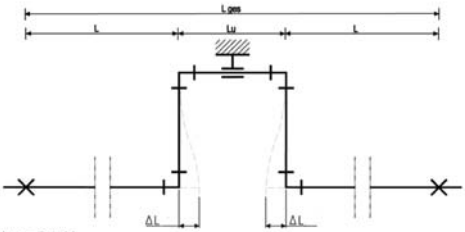



Expansion loops can be installed to take up changes in length when flexible sections cannot be included at a change in direction or branch in the pipeline or if substantial changes in the length of a straight section need to be taken up. In such a case the compensation for changes in length is distributed over two flexible sections.




Lu ≥ 2 * ΔL

**NOTICE**

**Bending load at flexible sections**
Caused by the bending load leakages can occur at mechanical joints.

- Within the range of flexible sections and/or expansion loops no screw connections or flange connections shall be used.

**Pre-stress**
Length changes in pipe sections should always be accommodated through the arrangement of fixed brackets.

The following examples show how the changes can be distributed in pipe sections by suitable positioning of fixed brackets.

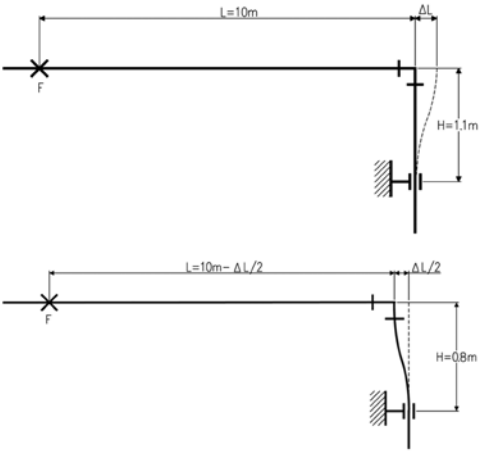
| | |
|---|---|
| Installation data: | L = 10m<br>d = 50mm |
| Installation temperature: | 15 °C |
| Max. operating temperature: | 40 °C |
| Material: | ABS |

a) Change in length
$+\Delta L = L * \Delta T * \alpha_{ABS} = 10 * 25 * 0.10 = 25$ mm

b) A flexible section to take up a change in length of ΔL = 25 mm needs to be $L_B$ = approx. 1150 mm long according to the diagram.

c) If the flexible section is pre-stressed to ΔL/2 then the required length of the flexible section is reduced to about 800 mm. The variation length from the 0 position is then ±ΔL/2 = 25/2 = 12.5 mm.

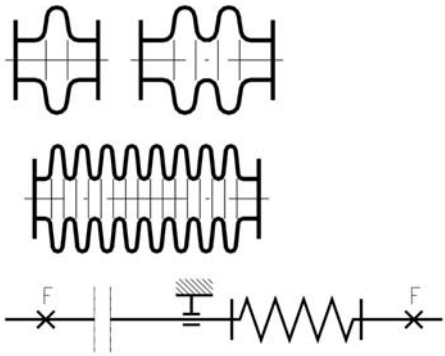
Pre-stressing the flexible section makes it possible to reduce its required length in installations where space is restricted. Pre-stressing also reduces the bending of the flexible section in service, improving the appearance of the pipeline.




**Installing compensators**
The low modulus of elasticity means that the reaction force of plastic pipes to thermal changes is low compared to metal pipes. This makes normal compensators designed for use with metal pipes unsuitable because of their high inherent resistance. Only freely moving compensators may be used in plastic pipe systems, i. e. those with a low resistance. The following compensators may be considered: rubber compensators, PTFE corrugated compensators or suitably selected metal multi-disc compensators.

Carefully placed fixed points should be used when fitting compensators for the regulation of the pipe in order to ensure their unhindered operation. The installation temperature provides the basis for the calculations to ensure this.

**Tip**: When using compensators, additional longitudinal forces are implemented into the pipeline. These forces have to be carried by guiding the pipeline. For example, threaded rods are not suitable. To estimate the lateral forces it can be assumed that they can reach about 15 % of the axial forces. Please contact the manufactures of compensators for further support designing such pipelines.

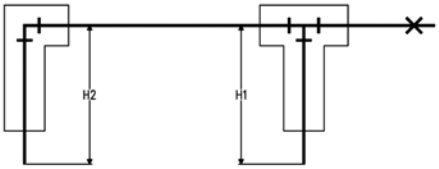



**Installing Valves**
Valves should be secured as directly as possible, so that the actuation forces are transmitted directly and not via the pipeline. Valve brackets or valves from GF with an integrated fastening device are used to securely fasten plastic valves. These valve brackets are also used to bear the loads of the valve and filling weight of the pipeline. Any changes in length which arise can be prevented with the appropriate fixed points before or after the valve. You will find more information under the respective valve types.

## Installing pipework under plaster or embedding it in concrete

**Installing Valves**
Installing pipework under plaster or embedding it in concrete

**Padded pipework**
Where pipework is installed under plaster or embedded into concrete, the flexible sections at bends and branches must be padded for the calculated distance H, as also must any branches and elbows included in the affected section. Use only flexible materials as padding, such as glass wool, mineral wool, foam or similar.



**Unpadded pipework**
Unpadded pipes can also be plastered or concreted in directly. Since the axial stress arising from internal pressure is half as great as the circumferential stress, pipelines can support limited additional axial stress without becoming overloaded. In such cases the level of stress expected must be calculated. The same is true of any section of pipe between two fixed points where no allowance has been made for changes in length. The load at the fixed points must be calculated and considered when planning the fixed points. The distance between pipe brackets in such cases may have to be reduced from the normal values in order to prevent bowing in the pipeline.

Care must be taken to avoid creating cavities when plastering or concreting in the pipeline, because under unfavourable conditions these can become areas of stress concentration. A rich plaster mixture (1 : 3 to 1 :4) should be used to allow the forces arising from temperature variations to be transmitted away without causing the plaster to crack.

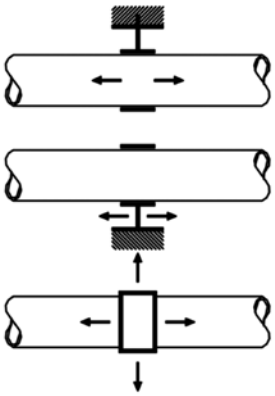
# Installation of metric industrial piping systems

## Pipe bracket spacing and support of pipelines

### General

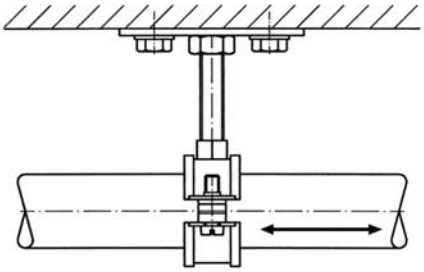
**Pipe support for plastics pipes**
Plastic pipe systems should be installed using supports designed for use with plastics and should then be installed taking care not to damage or over stress the pipe.

**Arranging Loose Brackets**
**What is a loose pipe bracket?**
A loose pipe bracket is a bracket which allows axial movement of the pipe, to allow stress free compensation of temperature changes and compensation of any other operating condition changes



The inner diameter of the bracket should be larger than the outside diameter of the pipe to allow free movement of the pipe. The inner edges of the brackets should be free from any sharp contours which could damage the plastic. If the brackets' inside diameter is not larger than the pipe then the bracket should not be fully tightened, thus allowing the pipe to move.

Another method is to use brackets with spacers which also avoids clamping the bracket on the pipe.



Spacer to avoid clamping

Axial movement of the pipeline must not be prevented by fittings placed next to pipe brackets or by any other component affecting the diameter of the pipe. Sliding brackets and hanging brackets permit the pipe to move in different directions. Attaching a sliding block to the base of the pipe bracket permits free movement of the pipe along a flat supporting surface. Sliding and hanging brackets are needed in situations where the pipeline changes direction and free movement of the pipe must be allowed.

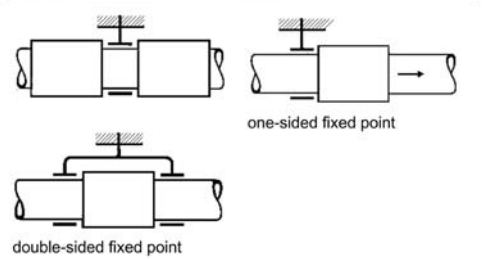
**Arranging fixed points**

**What is a fixed point?**
A fixed pipe bracket is a bracket which prevents the pipe from moving in any direction. The aim of which is to control system stresses caused by temperature changes.

**NOTICE**

**Construction of fix point**
This should not be done by simply clamping the bracket onto the outside of the pipe! This can cause deformation and physical damage to the pipe, damage that sometimes only later becomes visible.

- It should be done either by using pipe brackets located between two fittings or a double bracket must be used.(double-sided fixed point).
- Placing a pipe bracket immediately adjacent to a fitting restricts movement due to changes in length to one direction (one-sided fixed point).




**Information:**
Pipe brackets must be robust and mounted firmly to be able to take up the forces arising from changes in length in the pipeline. Hanging brackets or KLIP-IT pipe brackets are unsuitable for use as fixed points.

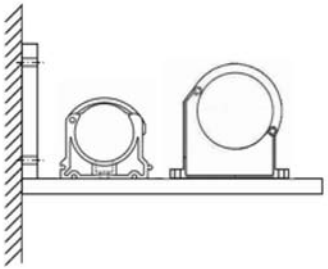
**KLIP-IT pipe brackets**
These robust plastic pipe brackets can be used not only under rigorous operating conditions, but also where the pipework is subject to aggressive media or atmospheric conditions. They may be used for all materials of pipes. Don't use KLIP-IT pipe brackets as fixed points!

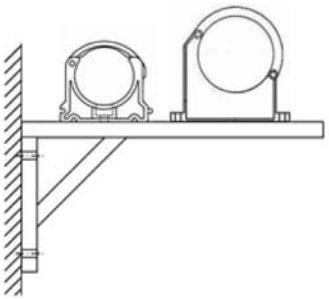

d 16 to d32

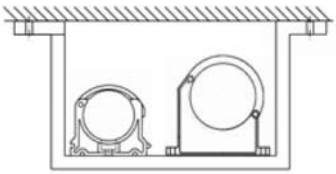

d 40 to d 160


d 90 to d 400

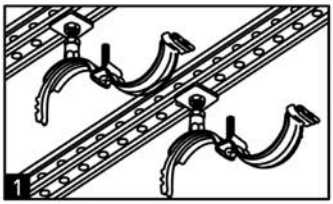
Starting from the dimension d90 the KLIP-IT brackets must be installed standing, like shown in the assembly examples. The support distances given in the following, specified for the KLIP-IT tubing clamps, apply only to this mounting method.



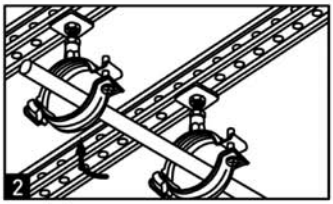




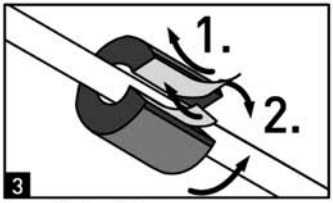
## Pipe brackets for cold insulation (MIP)



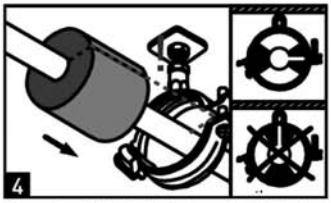

Open handle



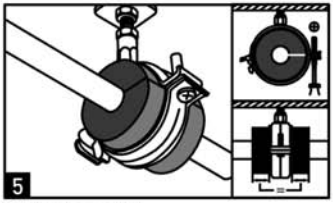

Insert pipe
Close handle with quick-action clamp



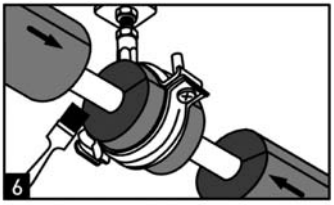

Assemble insulation
1. Take off foil
2. Press area of contact




Move insulation into the bracket. Attention!
Make sure the insulator is positioned correctly.




Tighten the screw

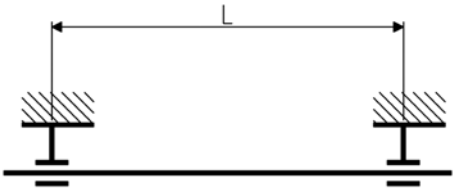



Coat areas of contact with adhesive and bond them

**Using the tables for pipe bracket spacing**
Plastic pipelines need to be supported at certain intervals depending on several factors: the material, the average pipe wall temperature, the density of the medium transported and the size and wall thickness of the pipe. Determining the spacing between pipe brackets is based on the permissible deflection of the pipe between consecutive brackets.

**Information:**
The values given in the tables apply only to pipelines which are freely movable in the axial direction.

Pipelines which are fastened tightly in the axial direction (fixed installations) must be checked for buckling. In most cases, this leads to a reduction of the maximum inner pressure and shorter distances between the support brackets.
Furthermore, the forces that act on the fixed points must also be taken into consideration. For assistance, please contact your nearest GF representative.



# Jointing technology

## Solvent cement jointing

### Instructions for Tangit solvent cement jointing of ABS dimension d16 to d225

#### General

**Solvent cement jointing calls for adequate technical know-how, which can be acquired in the appropriate training courses. Your GF representative will gladly provide you with information about training possibilities.**

The dimensions of GF pipes, fittings and valves conform generally to the various national standards as well as to ISO 727-1 concerning dimensions of sockets. Our fittings and valves can be used with any ABS pipes whose outside diameter tolerance conforms to ISO 11922-1. According to ISO 727-1 the following minimal cement lengths are as shown in the table:

| Pipe outside diameter / socket inside diameter d (mm) | Minimal cement length L (mm) |
|---|---|
| 16 | 13.0 |
| 20 | 15.0 |
| 25 | 17.5 |
| 32 | 21.0 |
| 40 | 25.0 |
| 50 | 30.0 |
| 63 | 36.5 |
| 75 | 42.5 |
| 90 | 50.0 |
| 110 | 60.0 |
| 125 | 67.5 |
| 140 | 75.0 |
| 160 | 85.0 |
| 200 | 105.0 |
| 225 | 117.5 |

**Tools and equipment**

| | | |
|---|---|---|
| **Pipe cutter Type KRA** | d10 - 63<br>d50 - 110<br>d110 - 160 | 790 109 001<br>790 109 002<br>790 109 003 |
| **Pipe cutter type KS 355** | 230 V / 50 - 60 Hz | 790 202 001 |
| **Chamfering tool** | d16-75<br>d32-200 | 799 495 145<br>799 495 146 |
| **Cleaner** | 1 litre tin | 799 298 010 |
| **Tangit ABS solvent cement** | 0.65 kg tin | 799 298 022 |
| **Brush sizes** | | |
| Pipe outside diameter in mm | Brush | |
| 16-32 | Round brush ø8 mm | 799 299 002 |
| 40-63 | Flat brush 1" 25 x 3 mm | 799 299 003 |
| 75-225 | Flat brush 2" 50 x 5 mm | 799 299 004 |
| **Tin lid** | | 799 298 028 |
| **White absorbent paper** | commercially available | |
| **Solvent resistant protecting gloves** | commercially available | |

Cutting the pipe to length

Chamfering the pipe

Solvent cementing equipment

**ABS Tangit and cleaner: Amounts required**

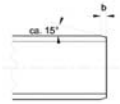
| Pipe diameter d (mm) | ABS Tangit amount per 100 joints (kg) | ABS Tangit number of joints per tin 0.650 kg |
|---|---|---|
| 16 | 0.25 | 260 |
| 20 | 0.35 | 186 |
| 25 | 0.40 | 163 |
| 32 | 0.45 | 144 |
| 40 | 0.60 | 108 |
| 50 | 0.90 | 72 |
| 63 | 1.10 | 59 |
| 75 | 1.25 | 52 |
| 90 | 1.70 | 38 |
| 110 | 2.50 | 26 |
| 140 | 5.00 | 13 |
| 160 | 6.50 | 10 |
| 200 | 10.0 | 6 |
| 225 | 12.5 | 5 |

| Pipe diameter d (mm) | Tangit cleaner amount per 100 joints (litre) | Tangit cleaner number of joints per tin 1 litre |
|---|---|---|
| 16 | 0.2 | 500 |
| 20 | 0.3 | 333 |
| 25 | 0.4 | 250 |
| 32 | 0.5 | 200 |
| 40 | 0.7 | 143 |
| 50 | 0.9 | 111 |
| 63 | 1.1 | 91 |
| 75 | 1.3 | 77 |
| 90 | 1.4 | 71 |
| 110 | 1.7 | 59 |
| 140 | 2.1 | 48 |
| 160 | 2.5 | 40 |
| 200 | 3.5 | 29 |
| 225 | 4.5 | 22 |

**Note:** The quantities specified above are to be understood as practice-orientated maximum values. In principle the quantities depend on gap dimensions, temperatures, working technique.

**Preparations**
The pipe must be cut off at right angles. Remove the inside edges and chamfer the outside ones as illustrated in the sketch. Only then is an optimal solvent cemented joint possible.

**Important:** Well-chamfered pipe ends prevent the layer of cement from being removed as the pipe is inserted into the fitting




| Pipe outside diameter | b |
|---|---|
| 16 mm | 1 - 2 mm |
| 20 - 50 mm | 2 - 3 mm |
| ≥ 63 mm | 3 - 6 mm |

Marking the jointing length

Wipe the outside of the pipe and the inside of the socket with a clean cloth to remove obvious dirt. Marking the jointing length on the pipe end makes it possible to check afterwards whether the pipe has been inserted to the full extent of the socket.

**Note:** If the outside diameter of the pipe and the inside diameter of the socket are at opposite extremes of their tolerances, then the pipe cannot be inserted dry into the fitting socket. This will only become possible once the cement has been applied.


Checking the cement


Cleaning the pipe and socket

The Tangit ABS cement is supplied ready for use. Stir thoroughly before using! Cement of the correct consistency will run evenly from a wooden spatula held at a slant. Cement which no longer runs smoothly is unusable.
The cement must not be thinned.

For more information please consult the safety datasheets under the following link:
https://www.sdb.henkel.de/index.cfm

Cement and cleaner should be stored in a cool, dry place (5–35 °C)! Under these conditions the cement and cleaner are durable for 24 months starting from the date of filling (imprinted on the tin).

**Cementing**
Clean the outside of the pipe end and the inside of the socket **thoroughly** with ABS cleaner and absorbent paper.

Use a fresh piece of paper for each component. If the surfaces are free from grease, cleaning with absorbent paper and Tangit cleaner is not absolutely necessary for ABS.
But remove any condensation which may have formed on the parts.

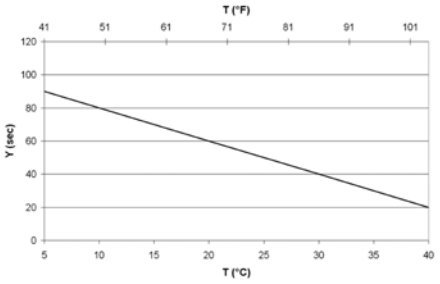
**Important**: Pipe end and fitting socket must be dry and free from grease and dirt and must not be touched after cleaning.

ABS pipes should be cemented at temperatures between +5 °C and +40 °C. Take the following protective measures if the temperatures deviate from the above:

At low temperatures, condensation or ice water which may have formed must be removed, e. g. with warm air. Cement and cleaner should be stored at room temperature. Please observe the waiting times mentioned in the following until the next cementing.

Avoid uneven overheating (->shorten the opening time) when cementing at higher temperatures by protecting the jointing area from direct sunlight.

The quick curing time of the cement necessitates that the joint is made within the opening time after application of the cement has started. The opening time of the ABS cement varies with the ambient temperature and the thickness of the cement applied:




T Temperature in °C / °F
Y Opening time [sec]

Begin by applying a normal layer of cement to the fitting and then a thicker one to the pipe end with firm brush pressure. **Work in wel**l.
The brush strokes should always be in an axial direction. To ensure that both jointing surfaces are completely covered with a smooth, even layer of cement, the brush should be generously loaded with cement.


Applying the cement

The joints can be made single-handed for pipes with diameters up to d63 mm.
For d75 mm and larger pipes, two people are needed to apply the cement to the pipe end and fitting socket simultaneously in order to avoid exceeding the maximum opening time of the cement.

After the cement has been applied, insert the pipe to the full depth of the socket immediately without twisting and bring them into the correct alignment. Ensure that the outlet of the fitting is in the correct position. Hold them in this position to allow the cement to set.

Up to the dimension **d140** wait at least 10 minutes before the next joint, extend the waiting time at temperatures under 10 °C to 15 minutes.

For the dimensions **d160 to d225** wait at least 30 minutes before the next joint, extend the waiting time at temperatures under 10 °C to 60 minutes. In order to avoid any forces on the cemented components by the weight of the piping system a support of the pipeline is necessary.

Remove any surplus cement immediately, using absorbent paper.

A bead of excess solvent cement around the complete external circumference of the joint and a slightly smaller bead again around the complete internal circumference show that the joint has been performed correctly.

After use, clean the brush of excess cement with dry absorbent paper and then clean thoroughly using TANGIT cleaner. Brushes must be dry before being re-used (shake out).


Replace the lid of the cement tin during work breaks

Replace the lid of the cement tin after use to prevent the solvent evaporating. Using the conical lid allows leaving the brush in the cement tin during breaks. Solvent cement dissolves ABS. Pipes and fittings must therefore not be laid on or allowed to come into contact with spilled cement or paper containing cement residues.

Do not close off cement pipelines during the drying process. This is particularly important at temperatures below + 5 °C, when there is otherwise a danger of damaging the material.

After the drying process (see waiting times in the following table) the pipelines can be filled. It is recommended to flush the pipeline before use, and leave it filled with water if it is not directly used.
To ensure the traceability (if necessary) of the used Tangit ABS batch, place the batch marking on the test report. This batch marking is attached to each dispatch unit. If several batches are used in one project, place one marking from each batch on the test report.

**Tangit ABS** Henkel

Charge/Batch-No.: _____

Abfülldatum/Filling date: _____

Diese Chargenkennzeichnung ist auf dem Prüf-/Abnahmeprotokoll anzubringen. / Put this product identification on the final test report.

## Drying period and pressure testing of ABS piping systems d16 - d225

The length of the drying period before the joint may be subjected to testing or operating pressure depends on the ambient temperature, the dimension and the tolerances. The following tables shows the different waiting times.

**Remark**: For temperatures above 20 °C the test pressure must be reduced according to the requirements given in the chapter "Final testing and commissioning".

**Attention**: Care should be taken, if the medium has a large temperature difference to the installation temperature.
Please consult your local GF Representative.

### Internal pressure test with water

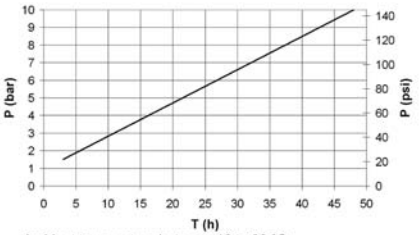
This pressure test shall be carried out according to the information given in the chapter "Internal pressure test with water or a similar incompressible fluid". The waiting time after the last joint until the pressure test is shown in the following table:

| Ambient Temperature | Waiting time |
|---|---|
| 10 ° to 30 °C | min. 24 hours |
| - below 10 °C<br>- above 30 °C | min. 48 hours |

**Attention**: Care should be taken, if the medium has a large temperature difference to the installation temperature.
Please consult your local GF Representative.

### Internal pressure test or leak tightness test with gas/air

Due to the risk of a pressure test with a compressible test medium this pressure test shall be carried out only in exceptional cases! Please consult also the safety precautions given in the chapter "Internal pressure test of ABS pipelines". The following diagram shows the waiting time depending on the test pressure for a ambient temperature between 10 to 30 °C:




Ambient temperature between 10 to 30 °C
P Test pressure in bar, psi
T Waiting time after last joint in hour

### Repair works

If the pipeline is only subjected to the operating pressure with fluids, e. g. after adaptation or repair works, the following rule of thumb for the waiting time applies, which is depending on the diameter:

### Dimension d16 up to d140

**Dimension d16 up to d140**

| Ambient Temperature | Waiting time for testing with fluids (non compressible) |
|---|---|
| 10 ° to 30 °C | 1-hour waiting time per 1 bar operating pressure. |
| - below 10 °C<br>- above 30 °C | 2-hour waiting time per 1 bar operating pressure. |

**Dimension d160 up to d225**

| Ambient Temperature | Waiting time for testing with fluids (non compressible) |
|---|---|
| 10 ° to 30 °C | 2-hour waiting time per 1 bar operating pressure. |
| - below 10 °C<br>- above 30 °C | 4-hour waiting time per 1 bar operating pressure. |

### Safety precautions

Tangit cement and cleaner contain highly volatile solvents. This makes good ventilation or adequate fume extraction essential in closed spaces. Since the solvent fumes are heavier than air, extraction must occur at floor level, or at least below the working level. Place paper which has been used for cleaning or for the removal of surplus cement into closed containers to minimise the amount of solvent fumes in the air.

Cement and cleaner are inflammable. Extinguish open fires before commencing work. Switch off unprotected electrical apparatus, electric heaters, etc. Do not smoke!
Discontinue any welding operations. Furthermore, observe all instructions issued by the solvent cement manufacturer (e.g. label of the tin and any supplementary documentation).

Protect pipes and fittings from spilled solvent cement, cleaner and absorbent paper which has been used to wipe off cement. Do not dispose of surplus solvent cement or cleaner in drainage systems.

The use of protective gloves is recommended to avoid contact with skin. If the cement or the cleaner get in contact with eyes, rinse immediately with water. Consult a doctor! Immediately change clothes that have solvent cement on them.

Always obey the safety regulations issued by the authorities responsible.

Adequate ventilation of the workplace

No open flames when cementing. No smoking.

# Installation of metric industrial piping systems

## Internal pressure test and leak test

### Internal pressure test with water or a similar incompressible test fluid

**General**

The internal pressure test is done when installation work has been completed and necessitates an operational pipeline or operational test sections. The test pressure load should furnish experimental proof of operational safety. The test pressure is not based on the working pressure, but rather on the internal pressure load capacity, derived from the pipe wall thickness.

Supplement 2 of DVS 2210-1 forms the basis for the following information. This replaces the data in DVS 2210-1 entirely. The modifications became necessary because the reference value "nominal pressure (PN)" is being used less and less to determine the test pressure (1.5 x PN, or 1.3 x PN) and is being replaced by SDR,

• a short-term overload or even a reduction in the service life can occur if in the course of the internal pressure test based on the nominal pressure the pipe wall temperature TR = 20 °C is exceeded by more than 5°C.
• Test pressures are therefore determined in relation to SDR and the pipe wall temperature. The 100-h value from the long-term behaviour diagram is used for the test clamping.

**Test Parameters**

The following table indicates recommended methods of testing the internal pressure.

| Object | Pre-test | Main test |
|---|---|---|
| **Test pressure $p_p$** (depends on the pipe wall temperature or the permissible test pressure of the built-in components, see clause "Determining the test pressure") | $\leq p_{p(perm)}$ | $\leq 0.85\ p_{p(perm)}$ |
| **Test duration** (depends on the length of the pipeline, respectively the sections) | L ≤ 100 m: 3 h<br>100 m <L ≤ 500 m: 6 h | L ≤ 100 m: 3 h<br>100 m <L ≤ 500 m: 6 h |
| **Checks** during the testing (test pressure and temperature progression should be recorded) | At least 3 checks, distributed over the test duration **with** restoring the test pressure | At least 2 checks, distributed over the test duration **without** restoring the test pressure |

**Pre-test**

The pre-test serves to prepare the piping system for the actual test (main test). In the course of pre-testing, a tension-expansion equilibrium in relation to an increase in volume will develop in the piping system.
A material related drop in pressure will occur which will require repeated pumping to restore the test pressure and also frequently a re-tightening of the flange connection screws. The guidelines for an expansion-related pressure decrease in pipes are:

| Material | Pressure drop |
|---|---|
| PVC-U | 0.5 bar/h |
| PVC-C | 0.5 bar/h |
| ABS | 0.6 bar/h |
| PP | 0.8 bar/h |
| PE | 1.2 bar/h |
| PB | 1.4 bar/h |
| PVDF | 0.8 bar/h |

**Main test**
In the context of the main test, a much smaller drop in pressure can be expected at constant pipe wall temperatures so that it is not necessary to pump again. The checks can focus primarily on leak detection at the flange joints and any position changes of the pipe.

**Observe if using compensators**
If the pipeline to be tested contains compensators, this has an influence on the expected axial forces of the pipeline. Because the test pressure is higher than the working pressure, the axial forces on the fixed points become higher. This has to be taken into account when designing the fixed points.

**Observe if using valves**
When using a valve at the end of a pipeline (end or final valve), the valve and the pipe end should be closed by a dummy flange or cap. This prevents inadvertent opening of the valve or any pollution of the inside of the valve.

**Filling the pipeline**
Before starting with the internal pressure test, the following points must be checked:
Was installation done according to the available plans?

- All pressure relief devices and flap traps mounted in the flow direction?
- All end valves shut?
- Valves in front of other devices are shut to protect against pressure.
- Visual inspection of all joints, pumps, measurement devices and tanks.
- Has the waiting period after the last fusion / cementing been observed?

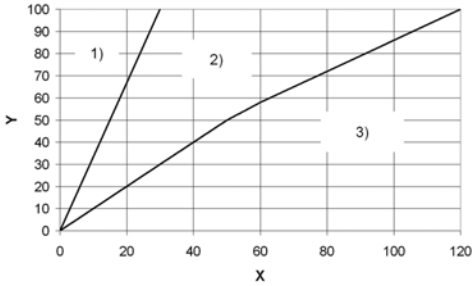
Now the pipeline can be filled from the geodetic lowest point. Special attention should be given to the air vent. If possible, vents should be provided at all the high points of the pipeline and these should be open when filling the system. Flushing velocity should be at least 1 m/sec.

Reference values for the filling volume are given in the following table.

| DN | V (l/sec) | DN | V (l/sec) |
|---|---|---|---|
| ≤ 80 | 0.15 | 250 | 2.0 |
| 100 | 0.3 | 300 | 3.0 |
| 150 | 0.7 | 400 | 6.0 |
| 200 | 1.5 | 500 | >9.0 |

Adequate time should be allowed between filling and testing the pipeline, so that the air contained in the piping system can escape via the vents: ca. 6 - 12 h, depending on the nominal diameter

**Applying the test pressure**




The test pressure is applied according to the diagram.
Here it is important that the pressure increase rate does not cause any water hammer!

Definitions
Y = test pressure in %
X = time for pressure increase in min
1) = pressure increase rate up to DN 100
2) = range of pressure increase rates ›DN 100 - 400
3) = reference values for pressure increase rate DN 500 and greater is: 500 / DN [bar/10 min]

**Determining the test pressure**
The allowable test pressure is calculated according to the following formula:

$$P_{p(perm)} = \frac{1}{SDR} \frac{20\ \sigma_{v(T,100h)}}{S_P\ A_G}$$

with
$\sigma_{v(T,\ 100h)}$ Long-term creep strength for the pipe wall temperature $T_R$ (at t = 100 h)
$S_P$ Minimum safety factor for long-term creep strength
$A_G$ Processing or geometrical specific factor that reduces the allowable test pressure
$T_R$ Pipe wall temperature: average value of test medium temperature and pipe surface temperature

**NOTICE**

**Diaphragm valves, types 514-519**

Don't overload diaphragm valves!

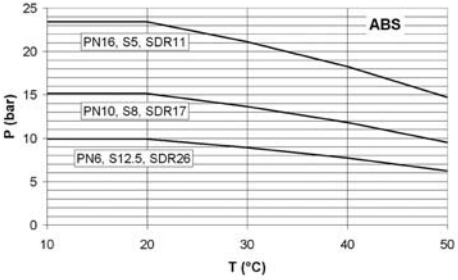
- If the piping system contains diaphragm valves the maximum allowable test pressure is limited to the nominal pressure.

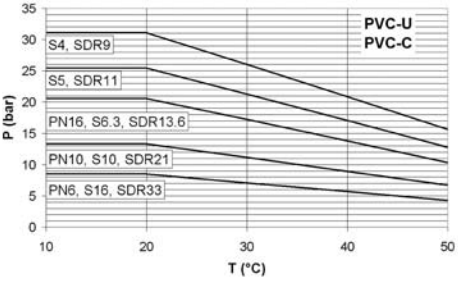
| Material | $S_p$ Minimum safety factor |
|---|---|
| ABS | 1.6 |
| PE80, PE100 | 1.25 |
| PP-H | 1.8 |
| PP-R | 1.4 |
| PVC-U, PVC-C | 2.5 |
| PVDF | 1.4 |

**General**

To make things easier, the permissible test pressures can be taken directly from the following diagrams.

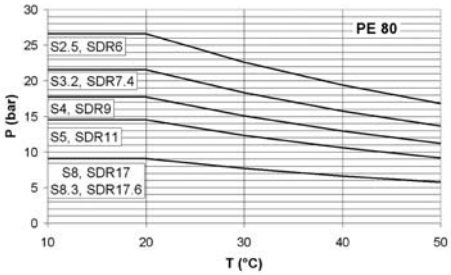
Definitions:
P = permissible test pressure in bar
T = pipe wall temperature in °C

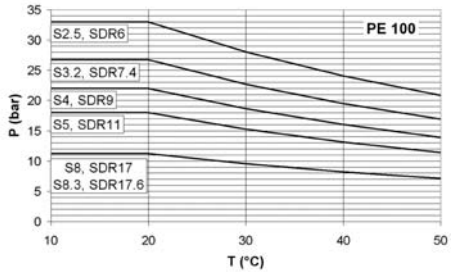


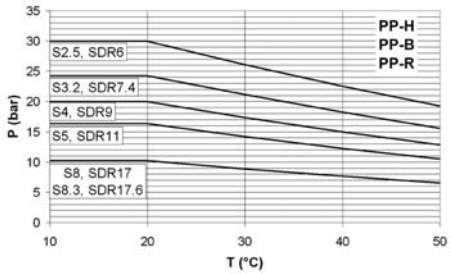



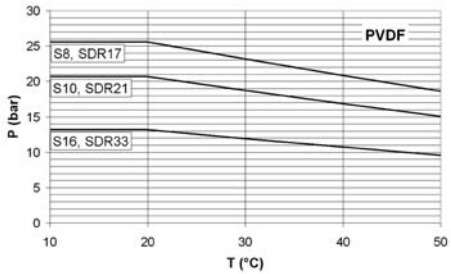

**Checks during testing**

The following measurement values must be recorded consistently during testing:




**General**

- Internal pressure at the absolute low point of the pipeline
- Medium and ambient temperature
- Water volume input
- Water volume output
- Pressure drop rates

# ABS Pressure Pipe Systems

## Standards

George Fischer metric fittings in ABS are generally in accordance with DIN 8063 and the pipe with DIN 16890/16891. George Fischer's inch range of fittings is generally in accordance with BS 5392 and the pipe with BS 5391.

## Sizes (Metric vs Inch)

For those unfamiliar with the difference between metric and inch sizes the following note may be helpful. In imperial systems, the sizes of pipe, fittings and other components such as valves are identified by reference to the nominal size of the bore of the pipe expressed in inches and fractions of an inch.

In metric systems, however, sizes are identified by references to the outside diameter of the pipe expressed in millimetres.

The table below shows the metric sizes which are regarded for practical purposes as being generally equivalent to imperial sizes up to 8 inches. It should, however, be understood that metric sizes are not simply inch sizes which have been converted into millimetres and called metric; their actual dimensions are slightly different and they are, with the exception of 2½" (75 mm) and 5" (140 mm) not interchangeable.

| IMPERIAL SIZES Nominal Bore inches | METRIC SIZES Pipe outside diameter (mm) | Nominal bore (mm) |
|---|---|---|
| 1/4 | 12 | 8 |
| 3/8 | 16 | 10 |
| 1/2 | 20 | 15 |
| 3/4 | 25 | 20 |
| 1 | 32 | 25 |
| 1 1/4 | 40 | 32 |
| 1 1/2 | 50 | 40 |
| 2 | 63 | 50 |
| 2 1/2 | 75 | 65 |
| 3 | 90 | 80 |
| 4 | 110 | 100 |
| 5 | 140 | 125 |
| 6 | 160 | 150 |
| 8 | 225 | 200 |
| 10 | 250 | 250 |
| | 280 | 250 |
| 12 | 315 | 300 |

# ABS BS Inch Product Range

(for further details please contact your local George Fischer Supplier)

**Pipe**

| | | |
|---|---|---|
| Class E | (15 bar, 217 lb/in² at 20°C) | 3/8"–4" |
| Class D | (12 bar, 173 lb/in² at 20°C) | 6" |
| Class C | ( 9 bar, 130 lb/in² at 20°C) | 1"–8" |
| Class T | (12 bar, 173 lb/in² at 20°C) | 1/2"–2" |

**Fittings**

| | | |
|---|---|---|
| Long Bends | Class E | 1/2"–4" |
| Short Pattern Bend | Class C | 8" |
| Elbows 90° | Class E | 3/8"–4" |
| | Class C | 6" |
| Tee 90° | Class E | 3/8"–4" |
| | Class D | 6" |
| | Class C | 8" |
| Tee 90° Reduced | Class E | 3/4"–1/2"–4"–3" |
| Tee 45° | Class E | 1/2"–5" |
| Elbow 45° | Class E | 3/8"–4" |
| | Class D | 6" |
| | Class C | 8" |
| Socket | Class E | 3/8"–4" |
| | Class D | 6" |
| | Class C | 8" |
| Cap | Class E | 3/8"–4" |
| Flange Adaptors (Serrated, O-ring groove, flat) | Class E | 1/2"–4" |
| | Class D | 6" |
| | Class C | 8" |
| Full Faced Flanges (BS 10, BS 4504/ISO, ASA, undrilled) | Class E | 1/2"–4" |
| | Class D | 6" |
| Union (EPDM and FPM) | Class E | 3/8"–2" |
| Short Reducing Bushes | Class E | 3/8"–4" |
| | Class D | 6"–8" |
| Long Reducing Bushes | Class E | 3"–4" |
| | Class D | 6" |
| Adaptor Sockets (Female Thread x Socket) | | 3/8"–2" |
| Adaptor (Nipple x Female Thread) | | 1/2"–2" |
| Adaptor Bush (Socket x Male Thread) | | 3/8"–2" |
| Adaptor Unions (Brass, PVC, Malleable Iron) | | 3/8"–2" |
| Accessories (Loose Flanges, Sets, Pipe Brackets etc.) | | various |

**Hand-operated and actuated valves**

| | |
|---|---|
| Ball Valve, Type 546, Class E<br>(EPDM and FPM, Thread Socket Versions) | 3/8"–4" |
| Diaphragm Valve, Type 514/515/317/517, Class D<br>(EPDM and PTFE) | 1/2"–4" |
| Butterfly Valves, Type 567/568 Class D<br>(EPDM and FPM) | 2"–8" |
| Ball Check Valve, Type 360, Class D | 3/8"–2" |
| Angle Seat Check Valve Type 303, Class D | 1/2"–2" |
| Electrically Actuated Ball Valves, Type 130 and Type 107 | 3/8"–4" |
| Pneumatically Actuated Ball Valves, Type 230 | 3/8"–4" |
| Pneumatically Actuated Diaphragm Valves, Type Diastar 16,10 and 6 and Type 018 | 1/2"–6" |
| Electronically Actuated Butterfly Valves, Type 140, 141 | 1/2"–6" |
| Electronically Actuated Butterfly Valves, Type 140, 141 | 2"–8" |
| Pneumatically Actuated Butterfly Valves, Type 240, 241 | 2"–8" |

# ABS Metric Product Range

(for further details please contact your local George Fischer Supplier)

**Pipe**

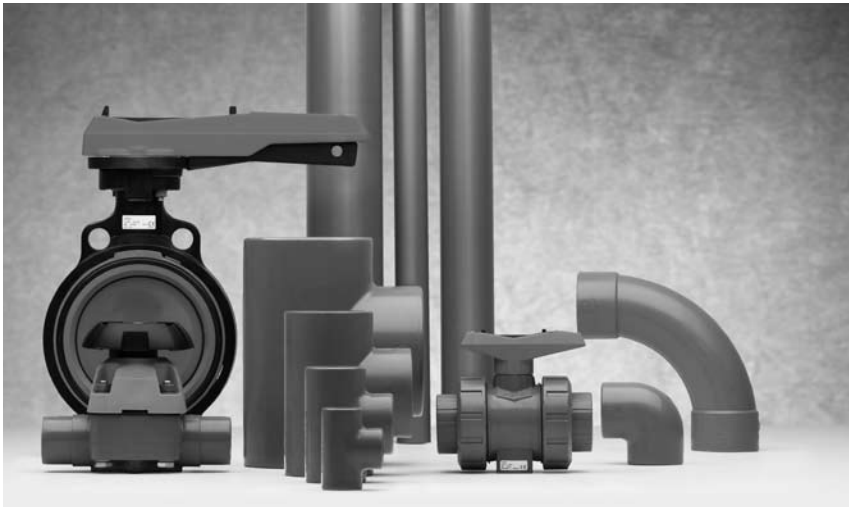
| | | |
|---|---|---|
| PN10<br>PN6 | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d16 - d225<br>d250 - d315 |

**Fittings**

| | | |
|---|---|---|
| Long Bends | (10 bar at 20°C water) | d16 - d225 |
| Short Pattern Bend | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d16 - d225<br>d250 - d315 |
| Elbows 90° | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d20 - d225<br>d250 |
| Tee 90° | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d20 - d225<br>d250 |
| Tee 90° Reduced | (10 bar at 20°C water) | d20 - d225 |
| Tee 45° | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d20 - d225<br>d75 - d140 |
| Elbow 45° | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d20 - d225<br>d250 - d315 |
| Cap | (10 bar at 20°C water) | d16 d160 |
| Flange Adaptors<br>(Serrated/flat) | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d20 - d225<br>d250 - d315 |
| Union<br>(EPDM and FPM) | (10 bar at 20°C water) | d16 - d110 |
| Short Reducing Bushes | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d16 - d225<br>d250 - d315 |
| Long Reducing Bushes | (10 bar at 20°C water) | d32 - d90 |
| Adaptor Sockets<br>(Female Thread x Socket) | (10 bar at 20°C water) | d20 - d63 |
| Adaptor Sockets<br>(Nipple x Female Thread) | (10 bar at 20°C water) | d16 - d63 |
| Adaptor Bush<br>(Socket x Male Thread) | (10 bar at 20°C water) | d16 - d63 |
| Adaptor Unions<br>(Brass, PVC-U, Malleable Iron) | (10 bar at 20°C water) | d16 - d110 |
| Accessories<br>(Loose Flanges, Sets, Pipe Brackets etc.) | | various |

**Hand-operated and actuated valves**

| | | |
|---|---|---|
| Ball Valve, Type 546<br>(EPDM and FPM) | (10 bar at 20°C water) | d16 - d110 |
| 3 way Ball Valve, Type 543<br>(EPDM and FPM) | (10 bar at 20°C water) | d16 - d63 |
| Diaphragm Valve, Type 515/514/317/517<br>(EPDM and PTFE) | (10 bar at 20°C water) | d16 - d63 |
| Butterfly Valve, Type 567/568/037/038<br>(EPDM and PTFE) | (10 bar at 20°C water) | d63 - d315 |
| Butterfly Valve, Type 037, 038 | (10 bar at 20°C water) | d63 - d315 |
| Ball Check Valve, Type 360<br>(EPDM and PTFE) | (10 bar at 20°C water) | d16 - d63 |
| Angle Seat Check Valve Type 303 | (10 bar at 20°C water) | d20 - d63 |
| Electrically Actuated Ball Valves,<br>Type 130 and Type 107 | (10 bar at 20°C water) | d16 - d110 |
| Pneumatically Actuated Diaphragm Valves<br>(EPDM and FPM) | (10 bar at 20°C water)<br>(6 bar at 20°C water) | d16 - d110 |
| Electrically Actuated Butterfly Valves<br>Type 140, 141 | (10 bar at 20°C water) | d63 - d225 |
| Pneumatically Actuated Butterfly Valves<br>Type 240,241 | (10 bar at 20°C water) | d63 - d225 |



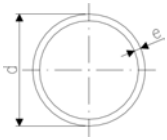
## Abbreviations

| | |
|---|---|
| AL | Number of bolt holes |
| ABS | Acrylonitrile Butadiene Styrene |
| ANSI | American National Standard Institute |
| CR | Chloroprene Rubber, e.g. Neopren |
| d | Pipe outside diameter |
| DIN | German standard |
| DN | Nominal bore |
| e | Wall thickness |
| EPDM | Ethylene Propylene Rubber |
| FM | Fusion Method |
| FPM | Fluorine Rubber, e.g. Viton® |
| kg | Weight in kilograms |
| G | Pipe thread, not pressure tight in the thread to ISO 288 |
| HTR | High Temperature Resistant |
| ISO | International Standardization Organisation |
| Ms | Brass |
| NBR | Nitrile Rubber |
| NPT | Taper male thread pressure tight in the thread to ANSI B 1.20.1 |
| PA | Polyamide |
| PBTP | Polybutylene therephthalate |
| PE | Polyethylene |
| PN | Nominal pressure at 20°C, water |
| PP | Polypropylene, heat stabilised |
| PTFE | Polytetrafluorethylene, e.g. Teflon® |
| PVC-C | Polyvinyl Chloride, chlorinated |
| PVC-U | Unplasticised Polyvinyl, chloride |
| PVDF | Polyvinylidene fluoride |
| R | Taper male thread, pressure tight in the thread to ISO 7 |
| Rp | Parallel female thread, pressure tight in the thread to ISO 7 |
| ® | Registered trade-mark |
| s | Across flats |
| SAN | Styrene-acrylonitrile |
| SC | Size of hexagon bolts |
| SP | Standard pack. The figure given indicates the quantity of fittings contained in a standard pack |
| St | Steel |
| Tg | Malleable Iron |
| TM | Trade-mark |
| Tr | Trapezoid thread |
| PP-GF | Polypropylene, glassfibre reinforced |

# Contents

# ABS BS Inch

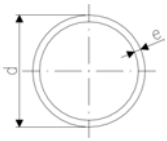
# Pipes




## Pipe ABS grey class E 15 bar at 20°C

- Dimensions: BS 5391
- Pipe length: 6m with plain ends
- Minimum order quantity: 1 length

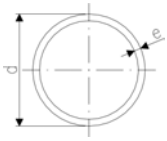
| d [inch] | PN | Code | kg/m | e [mm] | di [mm] |
|---|---|---|---|---|---|
| ⅜ | 15 | **169 018 080** | 0.090 | 1,7 | 6 |
| ½ | 15 | **169 018 081** | 0.001 | 2,0 | 8 |
| ¾ | 15 | **169 018 082** | 0.210 | 2,5 | 14 |
| 1 | 15 | **169 018 083** | 0.330 | 3,1 | 19 |
| 1 ¼ | 15 | **169 018 084** | 0.001 | 3,9 | 24 |
| 1 ½ | 15 | **169 018 085** | 0.680 | 4,5 | 29 |
| 2 | 15 | **169 018 086** | 1.060 | 5,6 | 39 |
| 3 | 15 | **169 018 088** | 2.280 | 8,3 | 59 |
| 4 | 15 | **169 018 089** | 0.300 | 10,6 | 80 |




## Pipe ABS grey class C 9 bar at 20°C

- Dimensions: BS 5391
- Pipe length: 6m with plain ends
- Minimum order quantity: 1 length

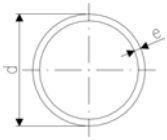
| d [inch] | PN | Code | kg/m | e [mm] | di [mm] |
|---|---|---|---|---|---|
| 6 | 12 | **169 018 067** | 6.330 | 12.8 | 125.8 |




## Pipe ABS grey class C 9 bar at 20°C

- Dimensions: BS 5391
- Pipe length: 6m with plain ends
- Minimum order quantity: 1 length

| d [inch] | PN | Code | kg/m | e [mm] | di [mm] |
|---|---|---|---|---|---|
| 1 | 9 | **169 018 033** | 0.500 | 2.0 | 21.0 |
| 1 ¼ | 9 | **169 018 034** | 0.340 | 2.5 | 27.0 |
| 1 ½ | 9 | **169 018 035** | 0.001 | 2.8 | 33.0 |
| 2 | 9 | **169 018 036** | 0.001 | 3.6 | 44.0 |
| 3 | 9 | **169 018 038** | 1.130 | 5.2 | 66.0 |
| 2 ½ | 10 | **169 017 087** | 1.154 | 4.5 | 66.0 |
| 4 | 9 | **169 018 039** | 2.480 | 6.7 | 88.0 |
| 5 | 10 | **169 017 091** | 4.083 | 8.6 | 122.8 |
| 6 | 9 | **169 018 042** | 0.300 | 9.9 | 120.0 |
| 8 | 9 | **169 018 045** | 9.530 | 12.7 | 127.0 |




## Pipe ABS grey class 7 (T) 12 bar at 20°C

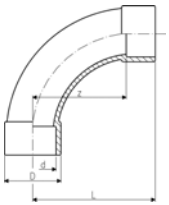
- Dimensions: BS 5391
- Pipe length: 6m with plain ends
- Minimum order quantity: 1 length
- Thick wall pipe to allow for threading

| d [inch] | PN | Code | kg/m | e [mm] | di [mm] |
|---|---|---|---|---|---|
| ½ | 12 | **169 018 106** | 0.220 | 3.6 | 5 |
| ¾ | 12 | **169 018 107** | 0.001 | 3.6 | 11 |
| 1 | 12 | **169 018 108** | 0.001 | 4.3 | 16 |
| 1 ¼ | 12 | **169 018 109** | 0.680 | 5.3 | 21 |
| 1 ½ | 12 | **169 018 110** | 0.870 | 6.0 | 26 |
| 2 | 12 | **169 018 111** | 1.310 | 7.2 | 36 |

# Solvent Cement Fittings

29 00 11

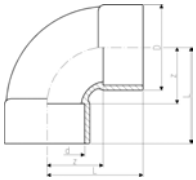
## Bend 90° ABS Inch BS


| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| ½ | 15 | **729 001 106** | 0.021 | 40 | 29 | 58 |
| ¾ | 15 | **729 001 107** | 0.035 | 50 | 35 | 71 |
| 1 | 15 | **729 001 108** | 0.049 | 64 | 43 | 88 |
| 1 ¼ | 15 | **729 001 109** | 0.155 | 80 | 54 | 109 |
| 1 ½ | 15 | **729 001 110** | 0.262 | 100 | 64 | 131 |
| 2 | 15 | **729 001 111** | 0.388 | 126 | 76 | 163 |
| 2 ½ | 10 | **729 000 112** | 0.585 | 150 | 90 | 194 |
| 3 | 15 | **729 001 113** | 1.532 | 180 | 113 | 231 |
| 4 | 15 | **729 001 115** | 2.720 | 220 | 137 | 284 |

29 01 11

## Bend 90°, short pattern, ABS BS Inch

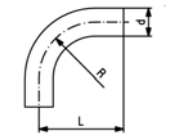




| d [mm] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 8 | 9 | **729 011 120** | 6.800 | 168 | 256 | 287 |

29 00 16

## Long Radius Bend 90°, ABS BS Inch

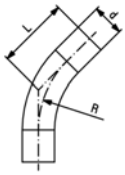
Other angles and sizes are available on request




| d [inch] | PN | Code | kg | R [mm] | L [mm] |
|---|---|---|---|---|---|
| ½ | 15 | **729 001 656** | 0.017 | 51 | 71 |
| ¾ | 15 | **729 001 657** | 0.032 | 76 | 108 |
| 1 | 15 | **729 001 658** | 0.051 | 102 | 133 |
| 1 ¼ | 15 | **729 001 659** | 0.103 | 127 | 170 |
| 1 ½ | 15 | **729 001 660** | 0.152 | 152 | 201 |
| 2 | 15 | **729 001 661** | 0.328 | 203 | 272 |
| 2 ½ | 15 | **729 001 662** | 1.444 | 255 | 340 |
| 3 | 15 | **729 001 663** | 1.125 | 305 | 402 |
| 4 | 15 | **729 001 664** | 2.202 | 406 | 544 |

29 15 11

## Long Radius Bend 45°, ABS BS Inch

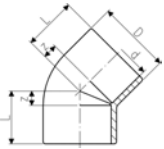



Other angles and sizes are available on request

| d [inch] | PN | Code | kg | R [mm] | L [mm] |
|---|---|---|---|---|---|
| ½ | 15 | **729 151 176** | 0.016 | 51 | 50 |
| ¾ | 15 | **729 151 177** | 0.023 | 76 | 63 |
| 1 | 15 | **729 151 178** | 0.038 | 102 | 75 |
| 1 ¼ | 15 | **729 151 179** | 0.077 | 127 | 100 |
| 1 ½ | 15 | **729 151 180** | 0.113 | 152 | 112 |
| 2 | 15 | **729 151 181** | 0.231 | 203 | 150 |
| 2 ½ | 15 | **729 151 182** | 1.444 | 255 | 200 |
| 3 | 15 | **729 151 183** | 0.844 | 305 | 238 |
| 4 | 15 | **729 151 184** | 1.694 | 406 | 301 |

29 15 11

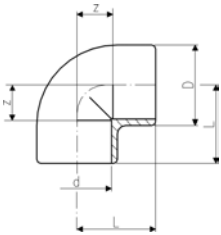
## Elbow 45° ABS Inch BS




| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 151 105** | 0.006 | 4 | 23 | 20 |
| ½ | 15 | **729 151 106** | 0.011 | 7 | 28 | 24 |
| ¾ | 15 | **729 151 107** | 0.019 | 8 | 33 | 29 |
| 1 | 15 | **729 151 108** | 0.026 | 10 | 41 | 33 |
| 1 ¼ | 15 | **729 151 109** | 0.046 | 11 | 51 | 40 |
| 1 ½ | 15 | **729 151 110** | 0.068 | 11 | 57 | 41 |
| 2 | 15 | **729 151 111** | 0.199 | 15 | 72 | 51 |
| 2 ½ | 10 | **729 150 112** | 0.228 | 17 | 89 | 61 |
| 3 | 15 | **729 151 113** | 0.405 | 21 | 109 | 72 |
| 4 | 15 | **729 151 115** | 0.866 | 26 | 135 | 89 |
| 5 | 10 | **729 150 116** | 1.190 | 32 | 162 | 108 |
| 6 | 15 | **729 151 117** | 1.865 | 38 | 198 | 129 |
| 8 | 9 | **729 151 120** | 3.900 | 49 | 250 | 168 |

29 10 11

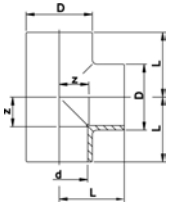
## Elbow 90° ABS Inch BS




| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 101 105** | 0.012 | 10 | 24 | 25 |
| ½ | 15 | **729 101 106** | 0.016 | 13 | 28 | 30 |
| ¾ | 15 | **729 101 107** | 0.026 | 16 | 34 | 37 |
| 1 | 15 | **729 101 108** | 0.038 | 19 | 40 | 42 |
| 1 ¼ | 15 | **729 101 109** | 0.058 | 22 | 52 | 51 |
| 1 ½ | 15 | **729 101 110** | 0.083 | 26 | 58 | 56 |
| 2 | 15 | **729 101 111** | 0.162 | 32 | 73 | 68 |
| 2 ½ | 10 | **729 100 112** | 0.308 | 40 | 90 | 84 |
| 3 | 15 | **729 101 113** | 0.480 | 46 | 107 | 97 |
| 4 | 15 | **729 101 115** | 0.980 | 59 | 137 | 122 |
| 5 | 10 | **729 100 116** | 1.470 | 70 | 162 | 146 |
| 6 | 15 | **729 101 117** | 2.960 | 86 | 201 | 176 |

29 20 11

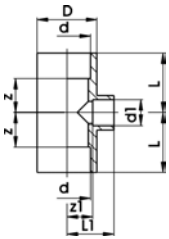
## Tee 90° ABS Inch BS




| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 201 105** | 0.018 | 10 | 25 | 25 |
| ½ | 15 | **729 201 106** | 0.029 | 13 | 30 | 30 |
| ¾ | 15 | **729 201 107** | 0.040 | 16 | 35 | 37 |
| 1 | 15 | **729 201 108** | 0.055 | 19 | 43 | 43 |
| 1 ¼ | 15 | **729 201 109** | 0.076 | 22 | 53 | 51 |
| 1 ½ | 15 | **729 201 110** | 0.146 | 26 | 58 | 56 |
| 2 | 15 | **729 201 111** | 0.296 | 32 | 73 | 68 |
| 2 ½ | 10 | **729 200 112** | 0.421 | 40 | 90 | 84 |
| 3 | 15 | **729 201 113** | 0.700 | 46 | 107 | 97 |
| 4 | 15 | **729 201 115** | 1.181 | 59 | 138 | 122 |
| 5 | 10 | **729 200 116** | 2.500 | 71 | 169 | 147 |
| 6 | 15 | **729 201 117** | 4.470 | 86 | 202 | 176 |
| 8 | 9 | **729 201 120** | 7.680 | 114 | 256 | 233 |

29 20 11

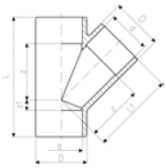
## Tee 90° reducing ABS Inch BS




| d [inch] | d1 [inch] | PN | Code | kg | z [mm] | z1 [mm] | D [mm] | L [mm] | L1 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| ¾ | ½ | 15 | **729 201 134** | 0.026 | 14 | 14 | 33 | 33 | 30 |
| 1 | ½ | 15 | **729 201 141** | 0.042 | 17 | 17 | 41 | 39 | 33 |
| 1 | ¾ | 15 | **729 201 138** | 0.043 | 17 | 17 | 41 | 39 | 36 |
| 1 ¼ | ¾ | 15 | **729 201 151** | 0.081 | 30 | 22 | 53 | 51 | 51 |
| 1 ¼ | 1 | 15 | **729 201 147** | 0.085 | 27 | 22 | 53 | 51 | 51 |
| 1 ½ | ½ | 15 | **729 201 009** | 0.154 | 29 | 29 | 62 | 59 | 44 |
| 1 ½ | 1 | 15 | **729 201 164** | 0.158 | 29 | 25 | 62 | 59 | 50 |
| 2 | ¾ | 15 | **729 201 011** | 0.246 | 37 | 31 | 77 | 73 | 53 |
| 2 | 1 | 15 | **729 201 178** | 0.250 | 37 | 31 | 77 | 73 | 56 |
| 2 | 1 ½ | 15 | **729 201 170** | 0.265 | 38 | 31 | 73 | 68 | 68 |
| 4 | 3 | 15 | **729 201 137** | 0.001 | 72 | 59 | 138 | 122 | 122 |

29 25 11

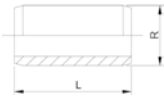
## Tee 45° ABS Inch BS



| d [inch] | PN | Code | kg | z [mm] | z1 [mm] | D [mm] | L [mm] | L1 [mm] |
|---|---|---|---|---|---|---|---|---|
| ½ | 9 | **729 251 106** | 0.026 | 30 | 6 | 28 | 68 | 46 |
| ¾ | 9 | **729 251 107** | 0.039 | 36 | 9 | 33 | 83 | 55 |
| 1 | 9 | **729 251 108** | 0.068 | 45 | 10 | 41 | 99 | 67 |
| 1 ¼ | 9 | **729 251 109** | 0.109 | 55 | 9 | 50 | 118 | 82 |
| 1 ½ | 9 | **729 251 110** | 0.207 | 67 | 13 | 60 | 140 | 97 |
| 2 | 9 | **729 251 111** | 0.372 | 87 | 16 | 74 | 175 | 123 |
| 2 ½ | 6 | **729 250 112** | 0.637 | 101 | 18 | 91 | 207 | 145 |
| 5 | 6 | **729 250 116** | 4.315 | 190 | 34 | 168 | 376 | 266 |

29 90 19

## Barrel nipple ABS Inch BS



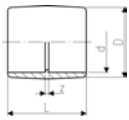
**Model:**

- With solvent cement spigots on both sides
- For quick connections between fittings
- For the shortest possible distance between fittings
- Overall length L = 2 x socket length

| d [inch] | PN | Code | kg | L [mm] |
|---|---|---|---|---|
| ⅜ | 10 | **729 901 905** | 0.002 | 28 |
| ½ | 10 | **729 901 906** | 0.004 | 32 |
| ¾ | 10 | **729 901 907** | 0.008 | 38 |
| 1 | 10 | **729 901 908** | 0.015 | 44 |
| 1 ¼ | 10 | **729 901 909** | 0.027 | 52 |
| 1 ½ | 10 | **729 901 910** | 0.050 | 62 |
| 2 | 10 | **729 901 911** | 0.098 | 76 |
| 2 ½ | 10 | **729 900 912** | 0.102 | 88 |
| 3 | 10 | **729 901 913** | 0.266 | 102 |
| 4 | 10 | **729 901 914** | 0.476 | 122 |
| 5 | 10 | **729 900 916** | | 152 |

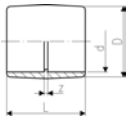
29 91 11

## Socket ABS Inch BS



| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 911 105** | 0.006 | 3 | 23 | 35 |
| ½ | 15 | **729 911 106** | 0.008 | 3 | 27 | 38 |
| ¾ | 15 | **729 911 107** | 0.013 | 3 | 33 | 45 |
| 1 | 15 | **729 911 108** | 0.020 | 3 | 41 | 51 |
| 1 ¼ | 15 | **729 911 109** | 0.040 | 3 | 51 | 60 |
| 1 ½ | 15 | **729 911 110** | 0.048 | 3 | 58 | 64 |
| 2 | 15 | **729 911 111** | 0.090 | 5 | 72 | 78 |
| 2 ½ | 10 | **729 910 112** | 0.140 | 4 | 87 | 92 |
| 3 | 15 | **729 911 113** | 0.260 | 7 | 104 | 108 |
| 4 | 15 | **729 911 115** | 0.476 | 8 | 134 | 135 |

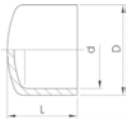
table continued next page



| d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 5 | 10 | **729 910 116** | 0.760 | 7 | 162 | 159 |
| 6 | 15 | **729 911 117** | 1.310 | 11 | 197 | 192 |
| 8 | 15 | **729 911 120** | 3.700 | 10 | 253 | 248 |

29 96 11

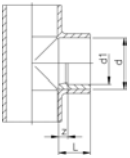
## Cap, ABS BS Inch



| d [inch] | PN | Code | kg | D [mm] | l [mm] |
|---|---|---|---|---|---|
| ⅜ | 15 | **729 961 105** | 0.004 | 26 | 33 |
| ½ | 15 | **729 961 106** | 0.007 | 30 | 25 |
| ¾ | 15 | **729 961 107** | 0.011 | 37 | 30 |
| 1 | 15 | **729 961 108** | 0.019 | 44 | 34 |
| 1 ¼ | 15 | **729 961 109** | 0.033 | 55 | 41 |
| 1 ½ | 15 | **729 961 110** | 0.038 | 62 | 44 |
| 2 | 15 | **729 961 111** | 0.097 | 78 | 54 |
| 2 ½ | 15 | **729 960 112** | 0.115 | 87 | 65 |
| 3 | 15 | **729 961 113** | 0.222 | 112 | 77 |
| 4 | 15 | **729 961 115** | 0.570 | 145 | 101 |
| 5 | 15 | **729 960 116** | 0.880 | 163 | 114 |

29 90 13

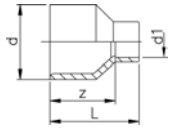
## Reducing bush short pattern ABS Inch BS



| d-d [inch] | PN | Code | kg | z [mm] | l [mm] |
|---|---|---|---|---|---|
| ½ - ⅜ | 15 | **729 901 334** | 0.002 | 2 | 18 |
| ¾ - ½ | 15 | **729 901 337** | 0.004 | 3 | 21 |
| 1 - ½ | 15 | **729 901 342** | 0.015 | 6 | 24 |
| 1 - ¾ | 15 | **729 901 341** | 0.008 | 3 | 24 |
| 1 ¼ - ½ | 15 | **729 901 348** | 0.019 | 11 | 29 |
| 1 ¼ - ¾ | 15 | **729 901 347** | 0.019 | 8 | 29 |
| 1 ¼ - 1 | 15 | **729 901 346** | 0.015 | 5 | 29 |
| 1 ½ - ½ | 15 | **729 901 355** | 0.026 | 13 | 30 |
| 1 ½ - ¾ | 15 | **729 901 354** | 0.027 | 10 | 30 |
| 1 ½ - 1 | 15 | **729 901 353** | 0.013 | 6 | 30 |
| 1 ½ - 1 ¼ | 15 | **729 901 352** | 0.010 | 2 | 30 |
| 2 - ¾ | 15 | **729 901 361** | 0.046 | 16 | 37 |
| 2 - 1 | 15 | **729 901 360** | 0.060 | 13 | 37 |
| 2 - 1 ¼ | 15 | **729 901 359** | 0.053 | 8 | 37 |
| 2 - 1 ½ | 15 | **729 901 358** | 0.038 | 6 | 37 |
| 2 ½ - 2 | 15 | **729 901 364** | 0.710 | 8 | 44 |
| 3 - 1 | 15 | **729 901 374** | 0.064 | 27 | 51 |
| 3 - 1 ½ | 15 | **729 901 372** | 0.133 | 21 | 51 |
| 3 - 2 | 15 | **729 901 371** | 0.131 | 14 | 51 |
| 3 - 2 ½ | 15 | **729 901 370** | 0.095 | 6 | 51 |
| 4 - 3 | 15 | **729 901 381** | 0.259 | 13 | 64 |
| 5 - 4 | 15 | **729 901 385** | 0.511 | 13 | 76 |
| 8 - 6 | 15 | **729 901 396** | 1.230 | 33 | 119 |

29 91 13

## Reducing bush long pattern ABS Inch BS

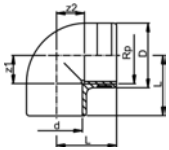



| d-d [inch] | PN | Code | kg | z [mm] | l [mm] |
|---|---|---|---|---|---|
| 6 - 4 | 15 | **729 911 389** | 0.975 | 133 | 197 |

# Adaptor Fittings ABS

29 10 12

## Elbow 90°, ABS BS Inch Rp



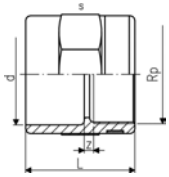

**Model:**

- With solvent cement socket BS Inch and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | Rp [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 101 206** | 0.013 | 12 | 11 | 30 | 27 |
| ¾ | ¾ | 15 | **729 101 207** | 0.028 | 15 | 15 | 35 | 33 |
| 1 | 1 | 15 | **729 101 208** | 0.036 | 18 | 19 | 45 | 39 |

29 91 10

## Socket ABS Inch BS Rp



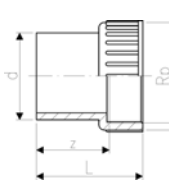

**Model:**

- With solvent cement socket BS Inch and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | Rp [inch] | PN | Code | kg | z [mm] | s [mm] | l [mm] |
|---|---|---|---|---|---|---|---|
| ⅜ | ⅜ | 15 | **729 911 005** | 0.010 | 4 | 27 | 31 |
| ½ | ½ | 15 | **729 911 006** | 0.015 | 4 | 32 | 35 |
| ¾ | ¾ | 15 | **729 911 007** | 0.020 | 3 | 36 | 40 |
| 1 | 1 | 15 | **729 911 008** | 0.044 | 3 | 36 | 45 |
| 1 ¼ | 1 ¼ | 15 | **729 911 009** | 0.055 | 3 | 55 | 51 |
| 1 ½ | 1 ½ | 15 | **729 911 010** | 0.106 | 8 | 65 | 69 |
| 2 | 2 | 15 | **729 911 011** | 0.138 | 8 | 8 | 69 |

29 90 14

## Adaptor ABS Inch BS Rp

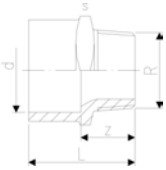



**Model:**

- With solvent cement socket BS Inch and parallel female thread Rp
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | Rp [inch] | PN | Code | kg | z [mm] | s [mm] | l [mm] |
|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 901 406** | 0.010 | 21 | 28 | 37 |
| ¾ | ¾ | 15 | **729 901 407** | 0.025 | 23 | 34 | 41 |
| 1 | 1 | 15 | **729 901 408** | 0.037 | 27 | 42 | 48 |
| 1 ¼ | 1 ¼ | 15 | **729 901 409** | 0.059 | 33 | 52 | 56 |
| 1 ½ | 1 ½ | 15 | **729 901 410** | 0.073 | 38 | 62 | 61 |
| 2 | 2 | 15 | **729 901 411** | 0.153 | 47 | 77 | 74 |

29 91 17



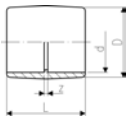

## Adaptor Bush ABS BS Inch R

**Model:**

- With solvent cement socket BS Inch and taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | R [inch] | PN | Code | kg | z [mm] | s [mm] | l [mm] |
|---|---|---|---|---|---|---|---|
| ⅜ | ⅜ | 15 | **729 911 705** | 0.010 | 20 | 27 | 34 |
| ½ | ½ | 15 | **729 911 706** | 0.015 | 24 | 32 | 40 |
| ¾ | ¾ | 15 | **729 911 707** | 0.019 | 25 | 36 | 44 |
| 1 | 1 | 15 | **729 911 708** | 0.031 | 28 | 46 | 50 |
| 1 ¼ | 1 ¼ | 15 | **729 911 709** | 0.048 | 31 | 55 | 57 |
| 1 ½ | 1 ½ | 15 | **729 911 710** | 0.073 | 32 | 65 | 63 |
| 2 | 2 | 15 | **729 911 711** | 0.133 | 38 | 80 | 76 |

29 91 31



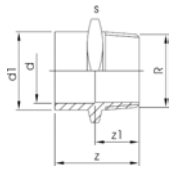

## Adaptor socket ABS metric/Inch BS

**Model:**

- with BS Inch and metric solvent cement sockets

| d [mm] | d [inch] | PN | Code | kg | z [mm] | L [mm] | D [mm] |
|---|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **729 913 105** | 0.007 | 5 | 35 | 23 |
| 20 | ½ | 10 | **729 913 106** | 0.010 | 5 | 38 | 27 |
| 25 | ¾ | 10 | **729 913 107** | 0.016 | 5 | 45 | 33 |
| 32 | 1 | 10 | **729 913 108** | 0.025 | 5 | 51 | 41 |
| 40 | 1 ¼ | 10 | **729 913 109** | 0.045 | 5 | 60 | 51 |
| 50 | 1 ½ | 10 | **729 913 110** | 0.070 | 4 | 65 | 59 |
| 63 | 2 | 10 | **729 913 111** | 0.130 | 5 | 79 | 75 |
| 75 | 2 ½ | 10 | **729 910 112** | 0.140 | 4 | 92 | 87 |
| 90 | 3 | 10 | **729 913 113** | 0.365 | 6 | 108 | 104 |
| 110 | 4 | 10 | **729 913 115** | 0.630 | 7 | 135 | 134 |

29 91 15



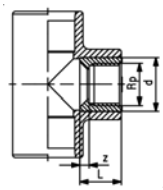

## Adaptor Socket Nipple, ABS BS Inch R

**Model:**

- With solvent cement spigot/reducing socket and taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | d1 [inch] | R [inch] | PN | Code | kg | z [mm] | z1 [mm] | s [mm] |
|---|---|---|---|---|---|---|---|---|
| ¼ | ⅜ | ⅜ | 15 | **729 911 555** | 0.008 | 36 | 21 | 27 |
| ⅜ | ½ | ½ | 15 | **729 911 556** | 0.012 | 43 | 28 | 32 |
| ½ | ¾ | ¾ | 15 | **729 911 557** | 0.018 | 48 | 31 | 36 |
| ¾ | 1 | 1 | 15 | **729 911 558** | 0.031 | 55 | 35 | 46 |

29 90 15



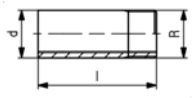

## Reducing Bush (short), ABS BS Inch - Rp

**Model:**

- With solvent cement spigot BS and parallel female thread Rp
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | Rp [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| ½ | ⅜ | 15 | **729 901 534** | 0.003 | 3 | 21 | 18 |
| ¾ | ½ | 15 | **729 901 537** | 0.011 | 5 | 27 | 21 |
| 1 | ¾ | 15 | **729 901 541** | 0.011 | 4 | 33 | 24 |
| 1 | ½ | 15 | **729 901 542** | 0.015 | 8 | 33 | 24 |

29 91 39



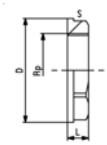

## Adaptor nipple ABS Inch BS R

**Model:**

- With solvent cement spigot BS Inch and taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| d [inch] | R [inch] | PN | Code | kg | l [mm] |
|---|---|---|---|---|---|
| ⅜ | ⅜ | 15 | **729 913 905** | 0.007 | 43 |
| ½ | ½ | 15 | **729 913 906** | 0.010 | 50 |
| ¾ | ¾ | 15 | **729 913 907** | 0.016 | 56 |
| 1 | 1 | 15 | **729 913 908** | 0.025 | 63 |
| 1 ¼ | 1 ¼ | 15 | **729 913 909** | 0.045 | 75 |
| 1 ½ | 1 ½ | 15 | **729 913 910** | 0.070 | 88 |
| 2 | 2 | 15 | **729 913 911** | 0.130 | 88 |
| 3 | 3 | 15 | **729 913 913** | 0.365 | 128 |
| 4 | 4 | 15 | **729 913 915** | 0.630 | 153 |

29 28 00



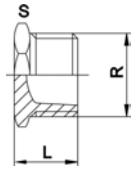

## Backnut ABS Inch BS

**Model:**

- Parallel female thread Rp

| Rp [inch] | PN | Code | kg | D [mm] | s [mm] |
|---|---|---|---|---|---|
| ½ | 15 | **169 280 002** | 0.010 | 37 | 31 |
| ¾ | 15 | **169 280 003** | 0.021 | 42 | 36 |
| 1 | 15 | **169 280 004** | 0.024 | 55 | 46 |
| 1 ¼ | 15 | **169 280 005** | 0.025 | 59 | 50 |
| 1 ½ | 15 | **169 280 006** | 0.034 | 70 | 60 |
| 2 | 15 | **169 280 007** | 0.065 | 94 | 79 |

29 96 19




## Plug ABS R

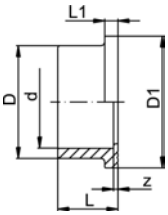
**Model:**

- With taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| R [inch] | PN | Code | kg | s [mm] | L [mm] |
|---|---|---|---|---|---|
| ½ | 10 | **729 961 906** | 0.008 | 27 | 25 |
| ¾ | 10 | **729 961 907** | 0.014 | 36 | 29 |
| 1 | 10 | **729 961 908** | 0.022 | 41 | 32 |

# Flange adaptors

29 79 11




## Flange adaptor ABS
## Combined jointing face flat and serrated Inch BS

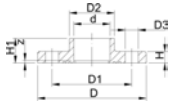
**Model:**

- Gasket: Flange Gasket EPDM No. 48 40 01, FPM No. 49 40 01

| d [inch] | PN | Code | kg | D1 [mm] | D [mm] | L [mm] | L1 [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|
| ½ | 15 | **729 791 106** | 0.007 | 34 | 27 | 21 | 6 | 3 |
| ¾ | 15 | **729 791 107** | 0.011 | 41 | 33 | 24 | 7 | 3 |
| 1 | 15 | **729 791 108** | 0.018 | 27 | 41 | 27 | 7 | 3 |
| 1 ¼ | 15 | **729 791 109** | 0.027 | 32 | 50 | 32 | 8 | 3 |
| 1 ½ | 15 | **729 791 110** | 0.050 | 33 | 61 | 33 | 8 | 3 |
| 2 | 15 | **729 791 111** | 0.078 | 40 | 77 | 40 | 9 | 3 |
| 2 ½ | 10 | **729 790 112** | 0.118 | 106 | 91 | 47 | 10 | 3 |
| 3 | 15 | **729 791 113** | 0.187 | 56 | 108 | 56 | 11 | 5 |
| 4 | 15 | **729 791 115** | 0.309 | 69 | 136 | 69 | 12 | 5 |
| 5 | 10 | **729 790 116** | 0.567 | 188 | 165 | 81 | 14 | 5 |
| 6 | 12 | **729 791 117** | 0.912 | 96 | 198 | 96 | 16 | 5 |
| 8 | 9 | **729 791 120** | 1.449 | 122 | 248 | 122 | 20 | 6 |

# Full Face Flange (drilled)

29 73 11




## Full face flange ABS Inch BS
## Drilled to BS 10 table D & E

**Model:**

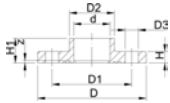
- Jointing face serrated
- Solvent cement socket BS inch
- It is recommended to use backing flanges in conjunction with all Full Face Flanges
- For pressure ratings over 2 bar backing flanges must be used
- All Full Face Flanges are manufactured with outside diameter to BS 4504

- ¹ connecting dimensions: BS 10 table E
- * connecting dimensions: BS 10 table D

AL: number of holes

| d [inch] | DN [mm] | Code | kg | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | H1 [mm] | AL | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | 15 | **729 731 106** | 0.075 | 95 | 67 | 27 | 15 | 10 | 21 | 4 | 3 |
| ¾ | 20 | **729 731 107** | 0.083 | 105 | 73 | 33 | 15 | 10 | 24 | 4 | 8 |
| 1 | 25 | **729 731 108** | 0.097 | 115 | 83 | 41 | 15 | 10 | 27 | 4 | 3 |
| 1 ¼ | 32 | **729 731 109** | 0.149 | 140 | 88 | 50 | 15 | 10 | 32 | 4 | 3 |
| 1 ½ | 40 | **729 731 110** | 0.180 | 150 | 98 | 61 | 15 | 10 | 33 | 4 | 3 |
| 2 | 50 | **729 731 111** | 0.231 | 165 | 115 | 77 | 18 | 10 | 40 | 4 | 3 |
| 3 | 80 | **729 731 113** | 0.238 | 200 | 146 | 108 | 18 | 12 | 56 | 4 | 5 |
| ¹ 4 | 100 | **729 731 114** | 0.771 | 220 | 178 | 136 | 18 | 17 | 69 | 8 | 5 |
| * 4 | 100 | **729 731 164** | 0.001 | 220 | 178 | 136 | 18 | 17 | 69 | 4 | 5 |
| 6 | 150 | **729 731 117** | 1.486 | 285 | 235 | 198 | 22 | 22 | 96 | 8 | 5 |

29 73 01
29 73 11




## Full face flange ABS Inch BS
## Drilled to BS 4504 PN10/16

**Model:**

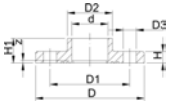
- Jointing face serrated
- Solvent cement socket BS inch
- It is recommended to use backing flanges in conjunction with all Full Face Flanges
- For pressure ratings over 2 bar backing flanges must be used
- All Full Face Flanges are manufactured with outside diameter to BS 4504

- ¹ connecting dimensions: BS 4504 and BS 10 table E

AL: number of holes

| d [inch] | DN [mm] | Code | kg | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | H1 [mm] | AL | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | 15 | **729 731 106** | 0.075 | 95 | 67 | 27 | 15 | 10 | 21 | 4 | 3 |
| ¾ | 20 | **729 731 107** | 0.083 | 105 | 73 | 33 | 15 | 10 | 24 | 4 | 8 |
| 1 | 25 | **729 731 108** | 0.097 | 115 | 83 | 41 | 15 | 10 | 27 | 4 | 3 |
| 1 ¼ | 32 | **729 730 109** | 0.150 | 140 | 100 | 50 | 14 | 10 | 32 | 4 | 3 |
| 1 ½ | 40 | **729 730 110** | 0.190 | 150 | 110 | 61 | 14 | 10 | 33 | 4 | 3 |
| 2 | 50 | **729 730 111** | 0.240 | 165 | 125 | 77 | 18 | 10 | 40 | 4 | 3 |
| 3 | 80 | **729 730 113** | 0.001 | 200 | 160 | 108 | 18 | 12 | 56 | 4 | 5 |
| ¹ 4 | 100 | **729 731 114** | 0.771 | 220 | 178 | 136 | 18 | 17 | 69 | 8 | 5 |
| 6 | 150 | **729 730 117** | 0.001 | 285 | 240 | 198 | 22 | 22 | 96 | 8 | 5 |

29 73 11
29 73 21




## Full face flange ABS Inch BS
## Drilled to ANSI B 16.5 class 150

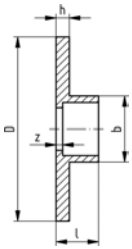
**Model:**

- Jointing face serrated
- Solvent cement socket BS inch
- It is recommended to use backing flanges in conjunction with all Full Face Flanges
- For pressure ratings over 2 bar backing flanges must be used
- All Full Face Flanges are manufactured with outside diameter to BS 4504

AL: number of holes

| d [inch] | DN [mm] | Code | kg | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | H1 [mm] | AL | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | 15 | **729 732 106** | 0.070 | 95 | 60 | 27 | 16 | 10 | 21 | 4 | 3 |
| ¾ | 20 | **729 732 107** | 0.090 | 105 | 70 | 33 | 16 | 10 | 24 | 4 | 8 |
| 1 | 25 | **729 732 108** | 0.097 | 115 | 79 | 41 | 16 | 10 | 27 | 4 | 3 |
| 1 ¼ | 32 | **729 731 109** | 0.149 | 140 | 88 | 50 | 15 | 10 | 32 | 4 | 3 |
| 1 ½ | 40 | **729 731 110** | 0.180 | 150 | 98 | 61 | 15 | 10 | 33 | 4 | 3 |
| 2 | 50 | **729 731 111** | 0.231 | 165 | 115 | 77 | 18 | 10 | 40 | 4 | 3 |
| 3 | 80 | **729 732 113** | 0.238 | 200 | 152 | 108 | 19 | 12 | 56 | 4 | 5 |
| 4 | 100 | **729 732 114** | 0.690 | 220 | 190 | 136 | 19 | 17 | 69 | 8 | 5 |
| 6 | 150 | **729 730 117** | 0.001 | 285 | 240 | 198 | 22 | 22 | 96 | 8 | 5 |

29 73 00




## Full face flange ABS Inch BS
## Undrilled

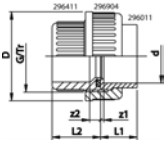
**Model:**

- Jointing face serrated
- Solvent cement socket BS inch
- It is recommended to use backing flanges in conjunction with all Full Face Flanges
- For pressure ratings over 2 bar backing flanges must be used
- All Full Face Flanges are manufactured with outside diameter to BS 4504

| d [inch] | DN [mm] | Code | kg | D [mm] | b [mm] | h [mm] | l [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|
| ½ | 15 | **729 730 006** | 0.074 | 95 | 27 | 10 | 21 | 3 |
| ¾ | 20 | **729 730 007** | 0.090 | 105 | 33 | 10 | 24 | 8 |
| 1 | 25 | **729 730 008** | 0.105 | 115 | 41 | 10 | 27 | 3 |
| 1 ¼ | 32 | **729 730 009** | 0.155 | 140 | 50 | 10 | 32 | 3 |
| 1 ½ | 40 | **729 730 010** | 0.187 | 150 | 61 | 10 | 33 | 3 |
| 2 | 50 | **729 730 011** | 0.238 | 165 | 77 | 10 | 40 | 3 |
| 3 | 80 | **729 730 013** | 0.426 | 200 | 108 | 12 | 56 | 5 |
| 4 | 100 | **729 730 014** | 0.656 | 220 | 136 | 17 | 69 | 5 |
| 6 | 150 | **729 730 017** | 1.832 | 285 | 198 | 22 | 96 | 5 |

# Unions

29 51 11



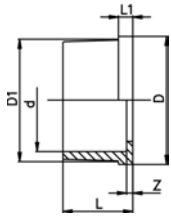

## Union ABS Inch BS

**Model:**

- Union End: Solvent cement socket BS Inch
- Union Bush: Solvent cement socket BS inch
- Gasket: O-Ring EPDM No. 48 41 00, FPM No. 49 41 00

| d [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 511 105** | 0.019 | 3 | 8 | 35 | 19 | 24 |
| ½ | 15 | **729 511 106** | 0.035 | 3 | 9 | 43 | 21 | 26 |
| ¾ | 15 | **729 511 107** | 0.049 | 3 | 9 | 53 | 24 | 29 |
| 1 | 15 | **729 511 108** | 0.070 | 3 | 9 | 60 | 27 | 33 |
| 1 ¼ | 15 | **729 511 109** | 0.127 | 3 | 10 | 74 | 32 | 39 |
| 1 ½ | 15 | **729 511 110** | 0.220 | 3 | 10 | 83 | 33 | 41 |
| 2 | 15 | **729 511 111** | 0.402 | 3 | 10 | 103 | 40 | 48 |
| 2 ½ | 10 | **729 510 112** | 0.461 | 3 | 18 | 135 | 47 | 62 |

29 60 11



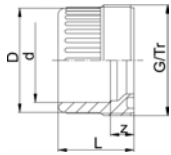

## Union end ABS Inch BS

**Model:**

- Solvent cement socket BS inch

| d [inch] | PN | Code | kg | z [mm] | D [mm] | D1 [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 601 105** | 0.004 | 3 | 24 | 22 | 19 |
| ½ | 15 | **729 601 106** | 0.007 | 3 | 30 | 27 | 21 |
| ¾ | 15 | **729 601 107** | 0.011 | 3 | 38 | 36 | 24 |
| 1 | 15 | **729 601 108** | 0.015 | 3 | 44 | 41 | 27 |
| 1 ¼ | 15 | **729 601 109** | 0.022 | 3 | 56 | 53 | 32 |
| 1 ½ | 15 | **729 601 110** | 0.033 | 3 | 62 | 59 | 33 |
| 2 | 15 | **729 601 111** | 0.060 | 3 | 78 | 74 | 40 |

29 64 11




## Union bush ABS Inch BS

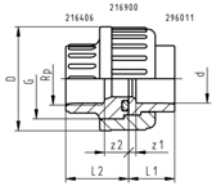
**Model:**

- Solvent cement socket BS inch

| d [inch] | PN | Code | kg | z [mm] | D [mm] | G/Tr | L [mm] |
|---|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 641 105** | 0.008 | 8 | 24 | 3/4 | 24 |
| ½ | 15 | **729 641 106** | 0.009 | 9 | 28 | 1 | 26 |
| ¾ | 15 | **729 641 107** | 0.014 | 9 | 34 | 1 1/4 | 29 |
| 1 | 15 | **729 641 108** | 0.024 | 9 | 42 | 1 1/2 | 33 |
| 1 ¼ | 15 | **729 641 109** | 0.043 | 10 | 52 | 2 | 39 |
| 1 ½ | 15 | **729 641 110** | 0.059 | 10 | 62 | 2 1/4 | 46 |
| 2 | 15 | **729 641 111** | 0.106 | 10 | 78 | 2 3/4 | 58 |

# Adaptor Unions ABS

29 51 12



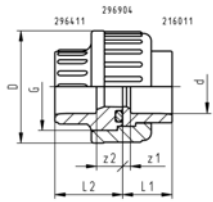

## Adaptor Union ABS/PVC-U BS Inch - Rp

**Model:**

- Union Bush: PVC-U parallel female thread Rp
- Union End: Solvent cement socket ABS BS inch
- Union nut: PVC-U
- Gasket: O-Ring EPDM No. 48 41 00, FPM No. 49 41 00
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to PVC-U

| d [inch] | Rp [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| ⅜ | ⅜ | 15 | **729 511 205** | 0.025 | 3 | 13 | 35 | 19 | 24 |
| ½ | ½ | 15 | **729 511 206** | 0.041 | 3 | 13 | 43 | 21 | 26 |
| ¾ | ¾ | 15 | **729 511 207** | 0.100 | 3 | 14 | 53 | 24 | 29 |
| 1 | 1 | 15 | **729 511 208** | 0.172 | 3 | 15 | 60 | 27 | 32 |
| 1 ¼ | 1 ¼ | 15 | **729 511 209** | 0.200 | 3 | 19 | 74 | 32 | 38 |
| 1 ½ | 1 ½ | 15 | **729 511 210** | 0.277 | 3 | 26 | 83 | 33 | 40 |
| 2 | 2 | 15 | **729 511 211** | 0.430 | 3 | 33 | 103 | 40 | 46 |

29 52 11



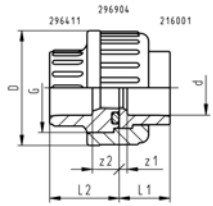

## Adaptor union ABS/PVC-U Inch BS

**Model:**

- Union End: Solvent cement socket PVC-U BS Inch
- Union Bush: Solvent cement socket ABS BS inch
- Union Nut: ABS
- Gasket: O-Ring EPDM No. 48 41 00, FPM No. 49 41 00

| d [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| ⅜ | 15 | **729 521 105** | 0.025 | 3 | 8 | 35 | 19 | 24 |
| ½ | 15 | **729 521 106** | 0.041 | 3 | 9 | 43 | 21 | 26 |
| ¾ | 15 | **729 521 107** | 0.066 | 3 | 9 | 53 | 24 | 29 |
| 1 | 15 | **729 521 108** | 0.093 | 3 | 9 | 60 | 27 | 32 |
| 1 ¼ | 15 | **729 521 109** | 0.155 | 3 | 10 | 74 | 32 | 38 |
| 1 ½ | 15 | **729 521 110** | 0.209 | 3 | 10 | 83 | 33 | 40 |
| 2 | 15 | **729 521 111** | 0.368 | 3 | 10 | 103 | 40 | 46 |

29 52 31




## Adaptor union ABS/PVC-U Inch BS/metric

**Model:**

- Union End: Solvent cement socket PVC-U metric
- Union Bush: Solvent cement socket ABS BS inch
- Union Nut: ABS
- Gasket: O-Ring EPDM No. 48 41 00, FPM No. 49 41 00

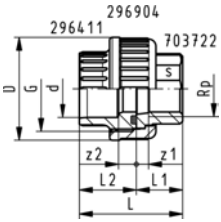
| d [inch] | d [mm] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 16 | 15 | **729 523 105** | 0.075 | 3 | 13 | 35 | 19 | 24 |
| ½ | 20 | 15 | **729 523 106** | 0.120 | 3 | 13 | 43 | 21 | 26 |
| ¾ | 25 | 15 | **729 523 107** | 0.190 | 3 | 14 | 53 | 24 | 29 |
| 1 | 32 | 15 | **729 523 108** | 0.250 | 3 | 15 | 60 | 27 | 32 |
| 1 ¼ | 40 | 15 | **729 523 109** | 0.400 | 3 | 19 | 74 | 32 | 38 |
| 1 ½ | 50 | 15 | **729 523 110** | 0.510 | 3 | 26 | 83 | 33 | 40 |
| 2 | 63 | 15 | **729 523 111** | 0.287 | 3 | 33 | 103 | 40 | 46 |

29 53 13

## Adaptor union ABS/malleable iron Inch BS Rp

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket BS Inch
- Union End: malleable iron with parallel female thread Rp
- Gasket: O-Ring EPDM No. 48 41 00



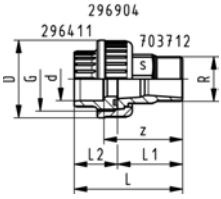

| d [inch] | Rp [inch] | PN | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z1 [mm] | z2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 531 306** | 0.132 | 43 | 48 | 22 | 26 | 9 | 10 | 1 | 25 |
| ¾ | ¾ | 15 | **729 531 307** | 0.226 | 51 | 51 | 22 | 29 | 7 | 10 | 1 1/4 | 31 |
| 1 | 1 | 15 | **729 531 308** | 0.282 | 58 | 58 | 26 | 33 | 9 | 10 | 1 1/2 | 38 |
| 1 | 1 ¼ | 15 | **729 531 309** | 0.476 | 72 | 69 | 31 | 39 | 12 | 12 | 2 | 48 |
| 1 ½ | 1 ½ | 15 | **729 531 310** | 0.498 | 83 | 78 | 33 | 46 | 14 | 14 | 2 1/4 | 54 |
| 2 | 2 | 15 | **729 531 311** | 0.795 | 100 | 91 | 35 | 58 | 11 | 18 | 2 3/4 | 67 |

29 53 18

## Adaptor union ABS/malleable iron Inch BS R

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket BS Inch
- Union End: Malleable iron with taper male thread R
- Gasket: O-Ring EPDM No. 48 41 00

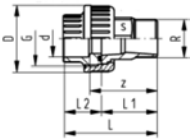



| d [inch] | R [inch] | PN* [bar] | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 531 806** | 0.137 | 43 | 66 | 40 | 26 | 50 | 1 | 25 |
| ¾ | ¾ | 15 | **729 531 807** | 0.226 | 51 | 72 | 43 | 29 | 53 | 1 1/4 | 31 |
| 1 | 1 | 15 | **729 531 808** | 0.322 | 58 | 80 | 48 | 33 | 58 | 1 1/2 | 38 |
| 1 ¼ | 1 ¼ | 15 | **729 531 809** | 0.554 | 72 | 95 | 57 | 39 | 69 | 2 | 48 |
| 1 ½ | 1 ½ | 15 | **729 531 810** | 0.654 | 83 | 104 | 59 | 46 | 73 | 2 1/4 | 54 |
| 2 | 2 | 15 | **729 531 811** | 0.935 | 100 | 118 | 62 | 58 | 80 | 2 3/4 | 67 |

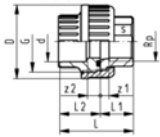
## Adaptor union R ABS/brass Inch BS

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS BS inch
- Union End: Brass with taper male thread R
- Gasket: O-Ring EPDM No. 48 41 00




| d [inch] | R [inch] | PN | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 551 906** | 0.123 | 43 | 63 | 37 | 26 | 37 | 1 | 25 |
| ¾ | ¾ | 15 | **729 551 907** | 0.185 | 51 | 71 | 42 | 29 | 42 | 1 1/4 | 30 |
| 1 | 1 | 15 | **729 551 908** | 0.283 | 58 | 79 | 46 | 33 | 55 | 1 1/2 | 36 |
| 1 ¼ | 1 ¼ | 15 | **729 551 909** | 0.503 | 72 | 91 | 52 | 39 | 60 | 2 | 46 |
| 1 ½ | 1 ½ | 15 | **729 551 910** | 0.666 | 83 | 97 | 56 | 41 | 65 | 2 1/4 | 55 |
| 2 | 2 | 15 | **729 551 911** | 1.071 | 100 | 115 | 67 | 48 | 77 | 2 3/4 | 65 |



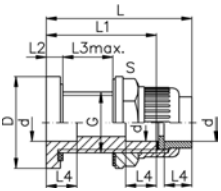

## Adaptor union Rp ABS/Brass Inch BS

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS BS inch
- Union End: Brass with parallel female thread Rp
- Gasket: O-Ring EPDM No. 48 41 00

| d [inch] | Rp [inch] | PN | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z1 [mm] | z2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | ½ | 15 | **729 551 506** | 0.084 | 43 | 48 | 22 | 26 | 7 | 9 | 1 | 25 |
| ¾ | ¾ | 15 | **729 551 507** | 0.134 | 51 | 54 | 25 | 29 | 9 | 8 | 1 ¼ | 30 |
| 1 | 1 | 15 | **729 551 508** | 0.179 | 58 | 60 | 27 | 33 | 8 | 9 | 1 ½ | 36 |
| 1 ¼ | 1 ¼ | 15 | **729 551 509** | 0.327 | 72 | 70 | 31 | 39 | 10 | 11 | 2 | 46 |
| 1 ½ | 1 ½ | 15 | **729 551 510** | 0.452 | 83 | 75 | 35 | 41 | 13 | 11 | 2 ¼ | 55 |
| 2 | 2 | 15 | **729 551 511** | 0.722 | 100 | 88 | 40 | 48 | 14 | 12 | 2 ¾ | 65 |

69 25 02




## Tank connector ABS Inch BS

**Model:**

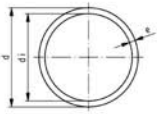
- End connection: Union with solvent cement socket BS Inch
- Gasket: flat gasket EPDM

| d [inch] | PN | Code | kg | d1 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 15 | **169 250 225** | 0.073 | 44 | 85 | 65 | 10 | 32 | 14 | 3/4 | 33 |
| ½ | 15 | **169 250 226** | 0.131 | 56 | 89 | 67 | 11 | 30 | 16 | 1 | 46 |
| ¾ | 15 | **169 250 227** | 0.194 | 65 | 97 | 72 | 12 | 32 | 19 | 11/4 | 50 |
| 1 | 15 | **169 250 228** | 0.001 | 70 | 103 | 75 | 12 | 33 | 22 | 11/2 | 60 |
| 1 ¼ | 15 | **169 250 229** | 0.446 | 95 | 111 | 78 | 12 | 32 | 26 | 2 | 80 |
| 1 ½ | 15 | **169 250 230** | 0.485 | 95 | 119 | 82 | 13 | 32 | 31 | 21/4 | 80 |
| 2 | 15 | **169 250 231** | 0.001 | 115 | 131 | 87 | 13 | 33 | 38 | 23/4 | 83 |

# ABS metric

# Metric pipe

69 01 70



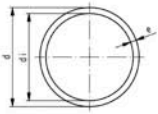

## Pipe ABS metric
## Nominal pressure PN10 (at 20°C)

**Model:**

- Colour: RAL 7001, gravel grey
- Pipe length: 5m, with plain ends
- Minimum order quantity: 1 length

| d [mm] | PN | Code | kg/m | e [mm] | di [mm] | Copper size |
|---|---|---|---|---|---|---|
| 16 | 16 | **169 017 080** | 0.095 | 1.5 | 13 | ½ |
| 20 | 16 | **169 017 081** | 0.148 | 1.65 | 16.7 | ⅝ |
| 25 | 16 | **169 017 082** | 0.191 | 1.95 | 21.1 | ⅞ |

69 01 70



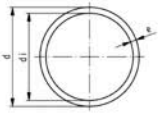

## Pipe ABS metric
## Nominal pressure PN10 (at 20°C)

**Model:**

- Colour: RAL 7001, gravel grey
- Pipe length: 5m, with plain ends
- Minimum order quantity: 1 length

| d [mm] | PN | d [inch] | Code | kg/m | e [mm] | di [mm] | Copper size |
|---|---|---|---|---|---|---|---|
| 32 | 10 | | **169 017 083** | 0.213 | 1.9 | 28.2 | 1 ⅛ |
| 40 | 10 | | **169 017 084** | 0.336 | 2.4 | 35.2 | 1 ⅜ |
| 50 | 10 | | **169 017 085** | 0.516 | 3.0 | 44.0 | 1 ⅝ |
| 63 | 10 | | **169 017 086** | 0.819 | 3.8 | 55.4 | 2 ⅛ |
| 75 | 10 | 2 ½ | **169 017 087** | 1.154 | 4.5 | 66.0 | 2 ⅝ |
| 90 | 10 | | **169 017 088** | 1.657 | 5.4 | 79.2 | 3 ⅛ |
| 110 | 10 | | **169 017 089** | 2.495 | 6.6 | 96.8 | 4 ⅛ |
| 140 | 10 | 5 | **169 017 091** | 4.083 | 8.6 | 122.8 | |
| 160 | 10 | | **169 017 092** | 5.397 | 9.9 | 140.2 | 6 |
| 200 | 10 | | **169 017 093** | 8.307 | 12.3 | 175.4 | |
| 225 | 10 | | **169 017 094** | 10.522 | 13.9 | 197.2 | |

69 01 70




## Pipe ABS metric
## Nominal pressure PN6 (at 20°C)

**Model:**

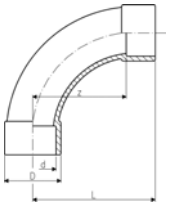
- Colour: RAL 7001, gravel grey
- Pipe length: 5m, with plain ends
- Minimum order quantity: 1 length

| d [mm] | PN | Code | kg/m | e [mm] | di [mm] |
|---|---|---|---|---|---|
| 250 | 6 | **169 017 095** | 8.299 | 9.6 | 230.8 |
| 280 | 6 | **169 017 096** | 10.346 | 10.7 | 258.6 |
| 315 | 6 | **169 017 097** | 13.173 | 12.1 | 290.8 |

# Pipe fittings for solvent cement jointing

29 00 01

## Bend 90° ABS metric

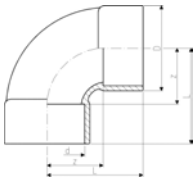
- Radius = 2 d

* Available as long as our stock will last

| d [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 20 | | 16 | **729 000 106** | 0.027 | 40 | 27 | 58 |
| 25 | | 16 | **729 000 107** | 0.038 | 50 | 35 | 69 |
| 32 | | 10 | **729 000 108** | 0.051 | 64 | 38 | 86 |
| 40 | | 10 | **729 000 109** | 0.102 | 80 | 54 | 109 |
| 50 | | 10 | **729 000 110** | 0.206 | 100 | 61 | 131 |
| 63 | | 10 | **729 000 111** | 0.387 | 126 | 76 | 164 |
| 75 | 2 ½ | 10 | **729 000 112** | 0.585 | 150 | 90 | 194 |
| 90 | | 10 | **729 000 113** | 0.750 | 180 | 113 | 231 |
| 110 | | 10 | **729 000 114** | 2.030 | 220 | 137 | 281 |
| 140 | | 10 | **729 000 116** | 4.100 | 280 | 168 | 356 |
| * 160 | | 10 | **729 000 117** | 5.600 | 320 | 191 | 406 |

29 01 01

## Bend 90° short pattern ABS metric

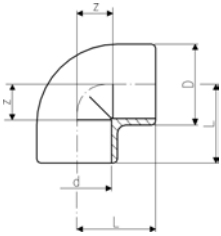



- >d225 - maximum operating temperature: +40°C

| d [mm] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 225 | 10 | **729 010 120** | 5.650 | 168 | 256 | 287 |
| 280 | 6 | **729 010 122** | 16.000 | 210 | 318 | 357 |
| 315 | 6 | **729 010 123** | 21.000 | 237 | 356 | 401 |

29 10 01

## Elbow 90° ABS metric

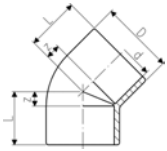



- >d225 - maximum operating temperature: +40°C

| d [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 16 | | 16 | **729 100 105** | 0.007 | 9 | 21 | 23 |
| 20 | | 16 | **729 100 106** | 0.010 | 11 | 26 | 27 |
| 25 | | 16 | **729 100 107** | 0.017 | 14 | 31 | 33 |
| 32 | | 10 | **729 100 108** | 0.032 | 17 | 40 | 39 |
| 40 | | 10 | **729 100 109** | 0.051 | 21 | 49 | 47 |
| 50 | | 10 | **729 100 110** | 0.103 | 26 | 61 | 57 |
| 63 | | 10 | **729 100 111** | 0.196 | 33 | 76 | 72 |
| 75 | 2 ½ | 10 | **729 100 112** | 0.308 | 40 | 90 | 84 |
| 90 | | 10 | **729 100 113** | 0.429 | 46 | 110 | 97 |
| 110 | | 10 | **729 100 114** | 0.786 | 55 | 136 | 116 |
| 140 | 5 | 10 | **729 100 116** | 1.470 | 70 | 162 | 146 |
| 160 | | 10 | **729 100 117** | 2.150 | 80 | 185 | 166 |
| 200 | | 10 | **729 100 119** | 3.372 | 101 | 225 | 207 |
| 250 | | 6 | **729 100 121** | 8.200 | 131 | 282 | 263 |

29 15 01

## Elbow 45° ABS metric

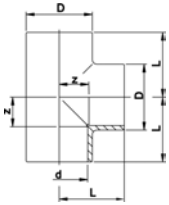



- >d225 - maximum operating temperature: +40°C

| d [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 20 | | 16 | **729 150 106** | 0.008 | 5 | 25 | 21 |
| 25 | | 16 | **729 150 107** | 0.013 | 6 | 31 | 25 |
| 32 | | 10 | **729 150 108** | 0.046 | 8 | 40 | 30 |
| 40 | | 10 | **729 150 109** | 0.082 | 10 | 49 | 36 |
| 50 | | 10 | **729 150 110** | 0.121 | 12 | 61 | 43 |
| 63 | | 10 | **729 150 111** | 0.144 | 14 | 76 | 52 |
| 75 | 2 ½ | 10 | **729 150 112** | 0.228 | 17 | 89 | 61 |
| 90 | | 10 | **729 150 113** | 0.362 | 20 | 107 | 71 |
| 110 | | 10 | **729 150 114** | 0.775 | 28 | 131 | 89 |
| 140 | 5 | 10 | **729 150 116** | 1.190 | 32 | 162 | 108 |
| 160 | | 10 | **729 150 117** | 1.680 | 36 | 185 | 122 |
| 200 | | 10 | **729 150 119** | 2.506 | 43 | 225 | 149 |
| 225 | | 10 | **729 150 120** | 3.100 | 49 | 250 | 168 |
| 250 | | 6 | **729 150 121** | 7.200 | 60 | 282 | 192 |
| 280 | | 6 | **729 150 122** | 10.500 | 66 | 318 | 213 |
| 315 | | 6 | **729 150 123** | 14.600 | 74 | 356 | 239 |

29 20 01

## Tee 90° ABS metric

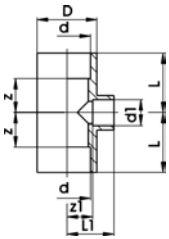



- >d225 - maximum operating temperature: +40°C

| d [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 16 | | 16 | **729 200 105** | 0.010 | 9 | 21 | 23 |
| 20 | | 16 | **729 200 106** | 0.014 | 11 | 25 | 27 |
| 25 | | 16 | **729 200 107** | 0.024 | 14 | 31 | 33 |
| 32 | | 10 | **729 200 108** | 0.042 | 17 | 40 | 39 |
| 40 | | 10 | **729 200 109** | 0.074 | 21 | 49 | 47 |
| 50 | | 10 | **729 200 110** | 0.131 | 26 | 61 | 57 |
| 63 | | 10 | **729 200 111** | 0.250 | 34 | 76 | 72 |
| 75 | 2 ½ | 10 | **729 200 112** | 0.421 | 40 | 90 | 84 |
| 90 | | 10 | **729 200 113** | 0.687 | 47 | 107 | 98 |
| 110 | | 10 | **729 200 114** | 1.020 | 55 | 133 | 116 |
| 140 | 5 | 10 | **729 200 116** | 2.500 | 71 | 169 | 147 |
| 160 | | 10 | **729 200 117** | 3.700 | 81 | 193 | 167 |
| 200 | | 10 | **729 200 119** | 4.430 | 101 | 225 | 207 |
| 225 | | 10 | **729 200 120** | 6.850 | 114 | 256 | 233 |
| 250 | | 6 | **729 200 121** | 12.400 | 132 | 282 | 263 |
| 280 | | 6 | **729 200 122** | 17.300 | 152 | 318 | 298 |
| 315 | | 6 | **729 200 123** | 24.100 | 168 | 356 | 332 |

29 20 01

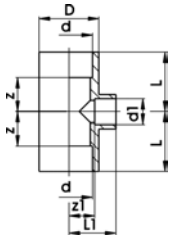
## Tee 90° reducing ABS metric




| d [mm] | d1 [mm] | PN | Code | kg |
|---|---|---|---|---|
| 25 | 20 | 16 | **729 200 134** | 0.029 |
| 32 | 25 | 10 | **729 200 138** | 0.048 |
| 40 | 25 | 10 | **729 200 151** | 0.081 |
| 40 | 32 | 10 | **729 200 147** | 0.085 |
| 50 | 25 | 10 | **729 200 010** | 0.135 |
| 50 | 32 | 10 | **729 200 164** | 0.200 |
| 63 | 25 | 10 | **729 200 011** | 0.245 |
| 63 | 32 | 10 | **729 200 178** | 0.249 |
| 63 | 50 | 10 | **729 200 170** | 0.265 |
| 75 | 40 | 10 | **729 200 182** | 0.500 |
| 90 | 32 | 10 | **729 200 143** | 1.000 |
| 90 | 63 | 10 | **729 200 146** | 0.900 |
| 110 | 32 | 10 | **729 200 144** | 2.000 |
| 110 | 50 | 10 | **729 200 136** | 1.900 |
| 140 | 50 | 10 | **729 200 148** | 1.899 |
| 140 | 75 | 10 | **729 200 149** | 2.500 |
| 160 | 90 | 10 | **729 200 158** | 2.800 |
| 200 | 110 | 10 | **729 200 153** | 6.110 |
| 225 | 110 | 10 | **729 200 156** | 7.500 |
| 225 | 160 | 10 | **729 200 157** | 7.900 |

| d [mm] | d1 [mm] | z [mm] | z1 [mm] | D [mm] | L [mm] | L1 [mm] | Closest inch run-branch-run |
|---|---|---|---|---|---|---|---|
| 25 | 20 | 14 | 14 | 33 | 33 | 30 | ¾ - ½ - ¾ |
| 32 | 25 | 17 | 17 | 41 | 39 | 36 | 1 - ¾ - 1 |
| 40 | 25 | 23 | 23 | 50 | 49 | 42 | 1 ¼ - ¾ - 1 ¼ |
| 40 | 32 | 23 | 23 | 50 | 49 | 45 | 1 ¼ - 1 - 1 ¼ |
| 50 | 25 | 28 | 28 | 62 | 59 | 47 | 1 ½ - ¾ - 1 ½ |

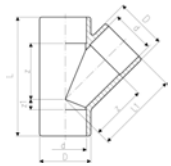
table continued next page




| d [mm] | d1 [mm] | z [mm] | z1 [mm] | D [mm] | L [mm] | L1 [mm] | Closest inch run-branch-run |
|---|---|---|---|---|---|---|---|
| 50 | 32 | 28 | 28 | 62 | 59 | 50 | 1 ½ - 1 - 1 ½ |
| 63 | 25 | 34 | 34 | 77 | 73 | 53 | 2 - ¾ - 2 |
| 63 | 32 | 35 | 34 | 77 | 73 | 56 | 2 - 1 - 2 |
| 63 | 50 | 35 | 34 | 77 | 73 | 65 | 2 - 1 ½ - 2 |
| 75 | 40 | 40 | 41 | 92 | 84 | 66 | 2 ½ - 1 ¼ - 2 ½ |
| 90 | 32 | 46 | 55 | 110 | 97 | 93 | 3 - 1 - 3 |
| 90 | 63 | 46 | 55 | 110 | 97 | 93 | 3 - 2 - 3 |
| 110 | 32 | 56 | 67 | 133 | 117 | 89 | 4 - 1 - 4 |
| 110 | 50 | 56 | 67 | 133 | 117 | 98 | 4 - 1 ½ - 4 |
| 140 | 50 | 72 | 82 | 172 | 148 | 113 | 5 - 1 ½ - 5 |
| 140 | 75 | 72 | 78 | 172 | 148 | 122 | 5 - 2 ½ - 5 |
| 160 | 90 | 81 | 91 | 192 | 167 | 142 | 6 - 3 - 6 |
| 200 | 110 | 106 | 131 | 232 | 213 | 192 | 7 - 4 - 7 |
| 225 | 110 | 119 | 143 | 257 | 239 | 204 | 8 - 4 - 8 |
| 225 | 160 | 119 | 119 | 257 | 239 | 205 | 8 - 6 - 8 |

29 25 01

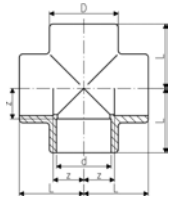
## Tee 45° ABS metric



| d [mm] | d [inch] | PN | Code | kg | z [mm] | z1 [mm] | D [mm] | L [mm] | L1 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 20 | | 10 | **729 250 106** | 0.027 | 30 | 6 | 28 | 68 | 46 |
| 25 | | 10 | **729 250 107** | 0.043 | 36 | 9 | 33 | 83 | 55 |
| 32 | | 10 | **729 250 108** | 0.073 | 45 | 10 | 41 | 99 | 67 |
| 40 | | 10 | **729 250 109** | 0.119 | 56 | 10 | 50 | 118 | 82 |
| 50 | | 10 | **729 250 110** | 0.202 | 66 | 12 | 60 | 140 | 97 |
| 63 | | 10 | **729 250 111** | 0.325 | 85 | 14 | 74 | 175 | 123 |
| 75 | 2 ½ | 6 | **729 250 112** | 0.637 | 101 | 18 | 91 | 207 | 145 |
| 90 | | 6 | **729 250 113** | 0.940 | 122 | 20 | 107 | 245 | 173 |
| 110 | | 6 | **729 250 114** | 1.870 | 149 | 27 | 134 | 298 | 210 |
| 140 | 5 | 6 | **729 250 116** | 4.315 | 190 | 34 | 168 | 376 | 266 |

29 30 01

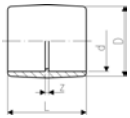
## Cross ABS metric



| d [mm] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 32 | 10 | **729 300 108** | 0.070 | 17 | 43 | 39 |
| 63 | 10 | **729 300 111** | 0.361 | 34 | 79 | 72 |

29 91 01

## Socket ABS metric



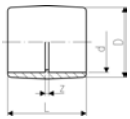
- >d225 - maximum operating temperature: +40°C

| d [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 16 | | 16 | **729 910 105** | 0.005 | 3 | 22 | 31 |
| 20 | | 16 | **729 910 106** | 0.007 | 3 | 26 | 35 |
| 25 | | 16 | **729 910 107** | 0.011 | 3 | 32 | 41 |
| 32 | | 10 | **729 910 108** | 0.020 | 3 | 40 | 47 |
| 40 | | 10 | **729 910 109** | 0.034 | 3 | 49 | 55 |
| 50 | | 10 | **729 910 110** | 0.060 | 3 | 61 | 65 |
| 63 | | 10 | **729 910 111** | 0.107 | 3 | 76 | 79 |
| 75 | 2 ½ | 10 | **729 910 112** | 0.140 | 4 | 87 | 92 |
| 90 | | 10 | **729 910 113** | 0.242 | 5 | 104 | 107 |
| 110 | | 10 | **729 910 114** | 0.570 | 5 | 131 | 132 |
| 140 | 5 | 10 | **729 910 116** | 0.760 | 7 | 162 | 159 |
| 160 | | 10 | **729 910 117** | 1.176 | 8 | 183 | 180 |
| 200 | | 10 | **729 910 119** | 1.480 | 9 | 221 | 221 |
| 225 | | 10 | **729 910 120** | 2.500 | 10 | 253 | 248 |
| 250 | | 6 | **729 910 121** | 5.400 | 16 | 284 | 284 |
| 280 | | 6 | **729 910 122** | 6.600 | 16 | 321 | 314 |
| 315 | | 6 | **729 910 123** | 8.100 | 16 | 356 | 348 |

29 91 31

## Adaptor socket ABS metric/Inch BS

**Model:**



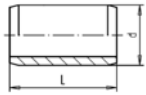
- with BS Inch and metric solvent cement sockets

| d [mm] | d [inch] | PN | Code | kg | z [mm] | L [mm] | D [mm] |
|---|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **729 913 105** | 0.007 | 5 | 35 | 23 |
| 20 | ½ | 10 | **729 913 106** | 0.010 | 5 | 38 | 27 |
| 25 | ¾ | 10 | **729 913 107** | 0.016 | 5 | 45 | 33 |
| 32 | 1 | 10 | **729 913 108** | 0.025 | 5 | 51 | 41 |
| 40 | 1 ¼ | 10 | **729 913 109** | 0.045 | 5 | 60 | 51 |
| 50 | 1 ½ | 10 | **729 913 110** | 0.070 | 4 | 65 | 59 |
| 63 | 2 | 10 | **729 913 111** | 0.130 | 5 | 79 | 75 |
| 90 | 3 | 10 | **729 913 113** | 0.365 | 6 | 108 | 104 |
| 110 | 4 | 10 | **729 913 115** | 0.630 | 7 | 135 | 134 |

29 90 09

## Barrel nipple ABS metric

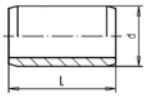
**Model:**



- With solvent cement spigots on both sides
- For quick connections between fittings
- For the shortest possible distance between fittings
- Overall length L = 2 x socket length

| d [mm] | d [inch] | PN | Code | kg | L [mm] |
|---|---|---|---|---|---|
| 16 | | 16 | **729 900 905** | 0.003 | 28 |
| 20 | | 16 | **729 900 906** | 0.004 | 32 |
| 25 | | 16 | **729 900 907** | 0.007 | 38 |
| 32 | | 10 | **729 900 908** | 0.009 | 44 |
| 40 | | 10 | **729 900 909** | 0.017 | 52 |
| 50 | | 10 | **729 900 910** | 0.032 | 62 |
| 63 | | 10 | **729 900 911** | 0.063 | 76 |

table continued next page



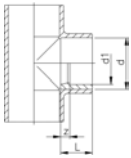

| d [mm] | d [inch] | PN | Code | kg | L [mm] |
|---|---|---|---|---|---|
| 75 | 2 ½ | 10 | **729 900 912** | 0.102 | 88 |
| 90 | | 10 | **729 900 913** | 0.173 | 102 |
| 110 | | 10 | **729 900 914** | 0.309 | 122 |

29 90 03

## Reducing bush ABS metric

**Model:**

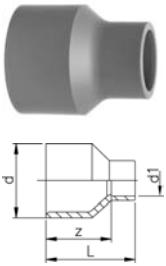
- With solvent cement spigot and socket metric




| d [mm] | d1 [mm] | PN | Code | kg | z [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 20 | 16 | 16 | **729 900 334** | 0.003 | 2 | 16 |
| 25 | 20 | 16 | **729 900 337** | 0.005 | 3 | 19 |
| 32 | 20 | 10 | **729 900 342** | 0.012 | 6 | 22 |
| 32 | 25 | 10 | **729 900 341** | 0.009 | 4 | 22 |
| 40 | 20 | 10 | **729 900 348** | 0.016 | 10 | 26 |
| 40 | 25 | 10 | **729 900 347** | 0.016 | 7 | 26 |
| 40 | 32 | 10 | **729 900 346** | 0.012 | 4 | 26 |
| 50 | 20 | 10 | **729 900 355** | 0.024 | 15 | 31 |
| 50 | 25 | 10 | **729 900 354** | 0.025 | 12 | 31 |
| 50 | 32 | 10 | **729 900 353** | 0.035 | 9 | 31 |
| 50 | 40 | 10 | **729 900 352** | 0.038 | 5 | 31 |
| 63 | 32 | 10 | **729 900 360** | 0.060 | 16 | 38 |
| 63 | 40 | 10 | **729 900 359** | 0.067 | 12 | 38 |
| 63 | 50 | 10 | **729 900 358** | 0.044 | 7 | 36 |
| 75 | 50 | 10 | **729 900 365** | 0.105 | 13 | 44 |
| 75 | 63 | 10 | **729 900 364** | 0.076 | 7 | 44 |
| 90 | 50 | 10 | **729 900 372** | 0.136 | 20 | 51 |
| 90 | 63 | 10 | **729 900 371** | 0.130 | 14 | 51 |
| 90 | 75 | 10 | **729 900 370** | 0.133 | 7 | 51 |
| 110 | 63 | 10 | **729 900 378** | 0.238 | 24 | 61 |
| 110 | 90 | 10 | **729 900 376** | 0.196 | 10 | 61 |
| 125 | 110 | 10 | **700 244 660** | 0.356 | 8 | 69 |
| 140 | 110 | 10 | **729 900 385** | 0.454 | 15 | 76 |
| 160 | 110 | 10 | **729 900 390** | 0.666 | 25 | 86 |
| 160 | 140 | 10 | **729 900 388** | 0.416 | 10 | 86 |
| 200 | 160 | 10 | **729 900 392** | 0.818 | 20 | 106 |
| 225 | 160 | 10 | **729 900 396** | 1.640 | 33 | 119 |
| 225 | 200 | 10 | **729 900 181** | 1.440 | 13 | 119 |
| 250 | 225 | 6 | **729 900 303** | 1.000 | 12 | 131 |
| 280 | 250 | 6 | **729 900 306** | 2.500 | 15 | 146 |
| 315 | 280 | 6 | **729 900 312** | 3.350 | 17 | 164 |

29 91 03

## Reducing bush long ABS metric




| d [mm] | d1 [mm] | PN | Code | kg | z [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 32 | 20 | 10 | **729 910 342** | 0.016 | 30 | 46 |
| 40 | 25 | 10 | **729 910 347** | 0.026 | 36 | 55 |
| 50 | 25 | 10 | **729 910 354** | 0.041 | 44 | 63 |
| 63 | 32 | 10 | **729 910 360** | 0.077 | 54 | 76 |
| 75 | 40 | 10 | **729 910 366** | 0.115 | 62 | 88 |
| 90 | 63 | 10 | **729 910 371** | 0.218 | 74 | 112 |

29 96 01

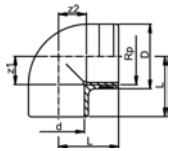
## Cap ABS metric


| d [mm] | PN | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|
| 16 | 16 | **729 960 105** | 0.006 | 26 | 24 |
| 20 | 16 | **729 960 106** | 0.008 | 30 | 25 |
| 25 | 16 | **729 960 107** | 0.013 | 37 | 30 |
| 32 | 10 | **729 960 108** | 0.020 | 44 | 34 |
| 40 | 10 | **729 960 109** | 0.034 | 55 | 41 |
| 50 | 10 | **729 960 110** | 0.034 | 64 | 44 |
| 63 | 10 | **729 960 111** | 0.086 | 80 | 54 |
| 75 | 10 | **729 960 112** | 0.115 | 87 | 65 |
| 90 | 10 | **729 960 113** | 0.215 | 112 | 77 |
| 110 | 10 | **729 960 114** | 0.480 | 145 | 101 |
| 140 | 10 | **729 960 116** | 0.880 | 163 | 114 |
| 160 | 10 | **729 960 117** | 1.130 | 188 | 130 |

# Adaptor fittings

29 10 02

## Elbow 90° ABS metric Rp



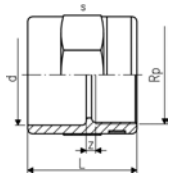

**Model:**

- With solvent cement socket metric and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| d [mm] | Rp [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|---|
| 20 | ½ | 10 | **729 100 206** | 0.018 | 11 | 14 | 30 | 27 |
| 25 | ¾ | 10 | **729 100 207** | 0.028 | 14 | 17 | 35 | 33 |
| 32 | 1 | 10 | **729 100 208** | 0.047 | 17 | 22 | 45 | 39 |
| 40 | 1 ¼ | 10 | **729 100 209** | 0.088 | 23 | 27 | 55 | 50 |
| 50 | 1 ½ | 10 | **729 100 210** | 0.128 | 27 | 36 | 62 | 58 |
| 63 | 2 | 10 | **729 100 211** | 0.233 | 33 | 46 | 75 | 73 |

29 91 02

## Socket ABS metric Rp



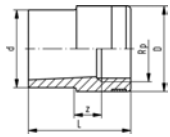

**Model:**

- With solvent cement socket metric and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| d [mm] | Rp [inch] | PN | Code | kg | z [mm] | L [mm] | s [mm] |
|---|---|---|---|---|---|---|---|
| 20 | ½ | 10 | **729 910 206** | 0.020 | 4 | 35 | 32 |
| 25 | ¾ | 10 | **729 910 207** | 0.030 | 3 | 40 | 36 |
| 32 | 1 | 10 | **729 910 208** | 0.040 | 3 | 45 | 46 |
| 40 | 1 ¼ | 10 | **729 910 209** | 0.069 | 5 | 51 | 55 |
| 50 | 1 ½ | 10 | **729 910 210** | 0.100 | 7 | 59 | 65 |
| 63 | 2 | 10 | **729 910 211** | 0.162 | 7 | 69 | 80 |

29 91 04

## Reducing bush ABS metric Rp

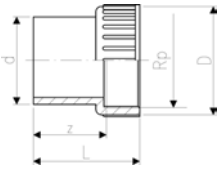



**Model:**

- With solvent cement spigot metric and parallel female thread Rp
- Reinforcing ring stainless (A2)
- Connection to plastic or metal threads
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| d [mm] | Rp [inch] | PN | Code | kg | z [mm] | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 20 | ⅜ | 10 | **729 910 434** | 0.012 | 7 | 25 | 35 |
| 25 | ½ | 10 | **729 910 437** | 0.018 | 7 | 30 | 41 |
| 32 | ¾ | 10 | **729 910 441** | 0.027 | 15 | 35 | 48 |
| 40 | 1 | 10 | **729 910 446** | 0.048 | 20 | 45 | 56 |
| 50 | 1 ¼ | 10 | **729 910 452** | 0.073 | 20 | 55 | 66 |
| 63 | 1 ½ | 10 | **729 910 458** | 0.106 | 10 | 62 | 77 |

29 90 04



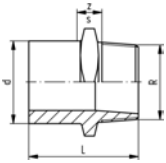

## Adaptor ABS metric Rp

**Model:**

- With solvent cement spigot metric and parallel female thread Rp
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| d [mm] | Rp [inch] | PN | Code | kg | z [mm] | L [mm] | D [mm] |
|---|---|---|---|---|---|---|---|
| 20 | ½ | 10 | **729 900 406** | 0.009 | 21 | 37 | 28 |
| 25 | ¾ | 10 | **729 900 407** | 0.014 | 23 | 41 | 33 |
| 32 | 1 | 10 | **729 900 408** | 0.026 | 27 | 48 | 42 |
| 40 | 1 ¼ | 10 | **729 900 409** | 0.046 | 33 | 56 | 52 |
| 50 | 1 ½ | 10 | **729 900 410** | 0.073 | 38 | 61 | 62 |
| 63 | 2 | 10 | **729 900 411** | 0.127 | 47 | 74 | 77 |

29 91 05



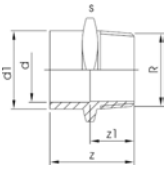

## Adaptor spigot nipple ABS metric R

**Model:**

- With solvent cement spigot metric and taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| d [mm] | R [inch] | PN | Code | kg | z [mm] | s [mm] |
|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **729 910 505** | 0.009 | 35 | 27 |

29 91 05




## Adaptor socket nipple ABS metric R

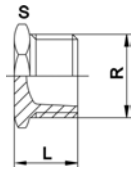
**Model:**

- With solvent cement spigot/socket metric and taper male thread R
- Connection for plastic threads
- Do not use thread sealing pastes that are harmful to ABS

| d [mm] | d1 [mm] | R [inch] | PN | Code | kg | z [mm] | z1 [mm] | s [mm] |
|---|---|---|---|---|---|---|---|---|
| 16 | 20 | ½ | 10 | **729 910 556** | 0.012 | 42 | 28 | 32 |
| 20 | 25 | ¾ | 10 | **729 910 557** | 0.020 | 47 | 31 | 36 |
| 25 | 32 | 1 | 10 | **729 910 558** | 0.031 | 54 | 35 | 46 |
| 32 | 40 | 1 ¼ | 10 | **729 910 559** | 0.050 | 60 | 38 | 55 |
| 40 | 50 | 1 ½ | 10 | **729 910 560** | 0.070 | 66 | 40 | 65 |
| 50 | 63 | 2 | 10 | **729 910 561** | 0.123 | 78 | 47 | 80 |

# Threaded fittings

29 96 19



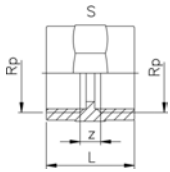

## Plug ABS R

**Model:**

- With taper male thread R
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS

| R [inch] | PN | Code | kg | s [mm] | L [mm] |
|---|---|---|---|---|---|
| ½ | 10 | **729 961 906** | 0.008 | 27 | 25 |
| ¾ | 10 | **729 961 907** | 0.014 | 36 | 29 |
| 1 | 10 | **729 961 908** | 0.022 | 41 | 32 |

29 91 06




## Threaded socket ABS Rp

**Model:**

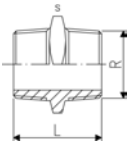
- With parallel female thread Rp
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

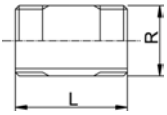
| Rp [inch] | PN | Code | kg | z [mm] | L [mm] | s [mm] |
|---|---|---|---|---|---|---|
| ½ | 10 | **729 910 606** | 0.019 | 9 | 35 | 32 |
| ¾ | 10 | **729 910 607** | 0.022 | 9 | 39 | 36 |
| 1 | 10 | **729 910 608** | 0.041 | 11 | 45 | 46 |

29 91 15

## Threaded nipple R ABS





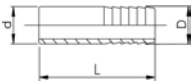

**Model:**

- BSP taper male threads (R)
- Connection to plastic threads only
- Do not use thread sealing pastes that are harmful to ABS
- Install with low mechanical stress and avoid large cyclic temperature changes

| R [inch] | PN | Type | S [mm] | Code | kg | L [mm] |
|---|---|---|---|---|---|---|
| ⅜ | 10 | B | | **729 911 505** | 0.014 | 43 |
| ½ | 10 | A | 22 | **729 911 906** | 0.009 | 45 |
| ¾ | 10 | A | 27 | **729 911 907** | 0.014 | 49 |
| 1 | 10 | A | 36 | **729 911 908** | 0.026 | 57 |
| 1 ¼ | 10 | B | | **729 911 509** | 0.053 | 75 |
| 1 ½ | 10 | B | | **729 911 510** | 0.031 | 88 |
| 2 | 10 | B | | **729 911 511** | 0.135 | 88 |
| 3 | 10 | B | | **729 911 513** | 0.196 | 128 |
| 4 | 10 | B | | **729 911 515** | 0.357 | 153 |

29 96 04

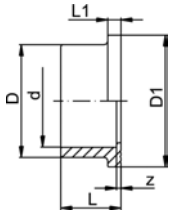
## Hose connector ABS metric




| d [mm] | PN | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|
| 16 | 10 | **729 960 405** | 0.007 | 16 | 57 |
| 20 | 10 | **729 960 406** | 0.011 | 20 | 73 |
| 25 | 10 | **729 960 407** | 0.016 | 25 | 79 |
| 32 | 10 | **729 960 408** | 0.026 | 30 | 89 |

# Flange adaptor

29 79 01




## Flange adaptor ABS metric

**Model:**

- Flat sealing faces/serrated
- Counter part: Same flange adaptor
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07
- Gasket: Flat gasket EPDM No. 48 40 03

- >d225 - maximum operating temperature: +40°C

| d [mm] | DN [mm] | d [inch] | PN | Code | kg | z [mm] | D [mm] | D1 [mm] | L [mm] | L1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | | 10 | **729 790 106** | 0.008 | 3 | 27 | 34 | 21 | 6 |
| 25 | 20 | | 10 | **729 790 107** | 0.012 | 3 | 33 | 41 | 24 | 7 |
| 32 | 25 | | 10 | **729 790 108** | 0.020 | 3 | 41 | 50 | 27 | 7 |
| 40 | 32 | | 10 | **729 790 109** | 0.058 | 3 | 50 | 61 | 30 | 8 |
| 50 | 40 | | 10 | **729 790 110** | 0.058 | 3 | 61 | 73 | 34 | 8 |
| 63 | 50 | | 10 | **729 790 111** | 0.074 | 3 | 76 | 90 | 41 | 9 |
| 75 | 65 | 2 ½ | 10 | **729 790 112** | 0.118 | 3 | 91 | 106 | 47 | 10 |
| 90 | 80 | | 10 | **729 790 113** | 0.187 | 5 | 108 | 125 | 56 | 11 |
| 110 | 100 | | 10 | **729 790 114** | 0.300 | 5 | 131 | 150 | 66 | 12 |
| 140 | 125 | 5 | 10 | **729 790 116** | 0.567 | 5 | 165 | 188 | 81 | 14 |
| 160 | 150 | | 10 | **729 790 117** | 0.800 | 5 | 188 | 213 | 91 | 16 |
| 200 | 200 | | 10 | **729 790 119** | 1.120 | 6 | 224 | 250 | 112 | 24 |
| 225 | 200 | | 10 | **729 790 120** | 1.300 | 6 | 248 | 274 | 125 | 25 |
| 250 | 250 | | 6 | **729 790 121** | 1.000 | 9 | 274 | 303 | 140 | 23 |
| 280 | 250 | | 6 | **729 790 122** | 2.161 | 5 | 307 | 329 | 151 | 23 |
| 315 | 300 | | 6 | **729 790 123** | 3.321 | 8 | 346 | 379 | 172 | 27 |

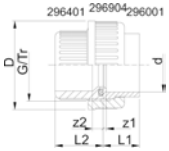
# Unions

29 51 01

## Union ABS metric

**Model:**

- Union End: Solvent cement socket metric
- Union bush: Solvent cement socket metric
- Gasket: O-ring EPDM No. 48 41 00




| d [mm] | d [inch] | PN | Code | kg | z1 [mm] | z2 [mm] | D [mm] | L1 [mm] | L2 [mm] | G/Tr |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | 10 | **729 510 105** | 0.025 | 5 | 10 | 35 | 19 | 24 | 3/4 |
| 20 | | 10 | **729 510 106** | 0.035 | 4 | 10 | 43 | 21 | 26 | 1 |
| 25 | | 10 | **729 510 107** | 0.050 | 5 | 10 | 53 | 24 | 29 | 1 1/4 |
| 32 | | 10 | **729 510 108** | 0.070 | 5 | 10 | 60 | 27 | 33 | 1 1/2 |
| 40 | | 10 | **729 510 109** | 0.130 | 3 | 12 | 74 | 31 | 39 | 2 |
| 50 | | 10 | **729 510 110** | 0.170 | 3 | 14 | 83 | 33 | 46 | 2 1/4 |
| 63 | | 10 | **729 510 111** | 0.340 | 3 | 18 | 103 | 40 | 58 | 2 3/4 |
| 75 | 2 ½ | 10 | **729 510 112** | 0.461 | 3 | 18 | 135 | 47 | 62 | Tr 108x5 |
| 90 | | 10 | **729 510 313** | 0.694 | 5 | 18 | 158 | 56 | 69 | Tr 128x5 |
| 110 | | 10 | **729 510 114** | 1.069 | 5 | 11 | 158 | 66 | 72 | Tr 154x5 |

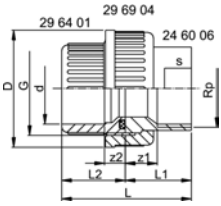
# Adaptor Unions

29 54 02

## Adaptor union ABS/stainless steel metric Rp

**Model:**

- Union End: Stainless Steel WN 1.4404 (316L), parallel female thread Rp
- Union Bush: Solvent cement socket ABS metric
- Union Nut: ABS
- Gasket: O-ring EPDM No. 48 41 00




| d [mm] | Rp [inch] | PN | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **729 540 205** | 0.053 |
| 20 | ½ | 10 | **729 540 206** | 0.096 |
| 25 | ¾ | 10 | **729 540 207** | 0.154 |
| 32 | 1 | 10 | **729 540 208** | 0.212 |
| 40 | 1 ¼ | 10 | **729 540 209** | 0.356 |
| 50 | 1 ½ | 10 | **729 540 210** | 0.455 |
| 63 | 2 | 10 | **729 540 211** | 0.721 |

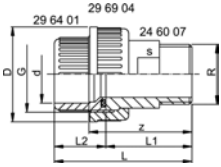
| d [mm] | z1 [mm] | z2 [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|
| 16 | 9 | 10 | 35 | 43 | 19 | 24 | 3/4 | 19 |
| 20 | 11 | 10 | 43 | 50 | 24 | 26 | 1 | 24 |
| 25 | 11 | 10 | 51 | 55 | 26 | 29 | 1 1/4 | 29 |
| 32 | 12 | 10 | 58 | 61 | 29 | 33 | 1 1/2 | 36 |
| 40 | 14 | 12 | 74 | 71 | 33 | 39 | 2 | 45 |
| 50 | 15 | 14 | 83 | 79 | 34 | 46 | 2 1/4 | 54 |
| 63 | 15 | 18 | 100 | 95 | 39 | 58 | 2 3/4 | 63 |

29 54 07

## Adaptor union ABS/stainless steel metric R

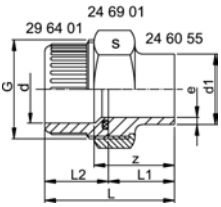
**Model:**

- Union End: Stainless Steel WN 1.4404 (316L), taper male thread R
- Union Bush: Solvent cement socket ABS metric
- Union Nut: ABS
- Gasket: O-ring EPDM No. 48 41 00




| d [mm] | R [inch] | PN | EPDM Code | kg | z [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **729 540 705** | 0.073 | 40 | 35 | 54 | 30 | 24 | 3/4 | 19 |
| 20 | ½ | 10 | **729 540 706** | 0.126 | 44 | 43 | 60 | 34 | 26 | 1 | 24 |
| 25 | ¾ | 10 | **729 540 707** | 0.174 | 46 | 51 | 65 | 36 | 29 | 11/4 | 32 |
| 32 | 1 | 10 | **729 540 708** | 0.262 | 50 | 58 | 72 | 40 | 33 | 11/2 | 37 |
| 40 | 1 ¼ | 10 | **729 540 709** | 0.476 | 58 | 74 | 84 | 46 | 39 | 2 | 48 |
| 50 | 1 ½ | 10 | **729 540 710** | 0.535 | 62 | 83 | 93 | 48 | 46 | 21/4 | 54 |
| 63 | 2 | 10 | **729 540 711** | 0.931 | 73 | 100 | 111 | 55 | 58 | 23/4 | 69 |

29 54 55



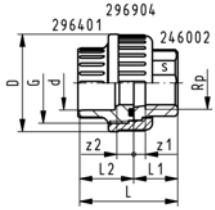

## Adaptor union ABS/stainless steel metric Welding end

**Model:**

- Union End: Stainless Steel WN 1.4404 (316L) with welding end
- Union Bush: Solvent cement socket ABS metric
- Union Nut: Stainless Steel WN 1.4404 (316L)
- Gasket: O-ring EPDM No. 48 41 00

| d [mm] | d1 [mm] | PN | EPDM Code | kg | z [mm] | L [mm] | L1 [mm] | L2 [mm] | e [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 17 | 10 | **729 545 505** | 0.101 | 28 | 42 | 18 | 24 | 1.6 | 3/4 | 32 |
| 20 | 21 | 10 | **729 545 506** | 0.176 | 32 | 48 | 22 | 26 | 2.0 | 1 | 41 |
| 25 | 27 | 10 | **729 545 507** | 0.204 | 33 | 52 | 23 | 29 | 2.0 | 1 1/4 | 46 |
| 32 | 34 | 10 | **729 545 508** | 0.313 | 36 | 58 | 26 | 33 | 2.0 | 1 1/2 | 55 |
| 40 | 42 | 10 | **729 545 509** | 0.493 | 38 | 64 | 26 | 39 | 2.0 | 2 | 68 |
| 50 | 48 | 10 | **729 545 510** | 0.566 | 42 | 73 | 28 | 46 | 2.0 | 2 1/4 | 74 |
| 63 | 60 | 10 | **729 545 511** | 0.902 | 50 | 88 | 32 | 58 | 2.6 | 2 3/4 | 88 |

29 53 03




## Adaptor union ABS/malleable iron metric Rp

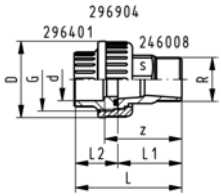
**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS metric
- Union End: malleable iron with parallel female thread Rp
- Gasket: O-Ring EPDM No. 48 41 00

| d [mm] | Rp [inch] | PN* [bar] | Code | kg |
|---|---|---|---|---|
| 20 | ½ | 10 | **729 530 306** | 0.064 |
| 25 | ¾ | 10 | **729 530 307** | 0.095 |
| 32 | 1 | 10 | **729 530 308** | 0.139 |
| 40 | 1 ¼ | 10 | **729 530 309** | 0.240 |
| 50 | 1 ½ | 10 | **729 530 310** | 0.339 |
| 63 | 2 | 10 | **729 530 311** | 0.516 |

| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z1 [mm] | z2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|
| 20 | 43 | 48 | 22 | 26 | 9 | 10 | 1 | 25 |
| 25 | 51 | 51 | 22 | 29 | 7 | 10 | 1 1/4 | 31 |
| 32 | 58 | 58 | 26 | 33 | 9 | 10 | 1 1/2 | 38 |
| 40 | 72 | 69 | 31 | 39 | 12 | 12 | 2 | 48 |
| 50 | 83 | 78 | 33 | 46 | 14 | 14 | 2 1/4 | 54 |
| 63 | 100 | 91 | 35 | 58 | 11 | 18 | 2 3/4 | 67 |

29 53 08



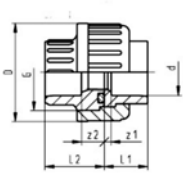

## Adaptor union ABS/malleable iron metric R

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS metric
- Union End: Malleable iron with taper male thread R
- Gasket: O-Ring EPDM No. 48 41 00

| d [mm] | R [inch] | PN* [bar] | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | ½ | 10 | **729 530 806** | 0.100 | 43 | 66 | 40 | 26 | 50 | 1 | 25 |
| 25 | ¾ | 10 | **729 530 807** | 0.147 | 51 | 72 | 43 | 29 | 53 | 1 1/4 | 31 |
| 32 | 1 | 10 | **729 530 808** | 0.198 | 58 | 80 | 48 | 33 | 58 | 1 1/2 | 38 |
| 40 | 1 ¼ | 10 | **729 530 809** | 0.400 | 72 | 95 | 57 | 39 | 69 | 2 | 48 |
| 50 | 1 ½ | 10 | **729 530 810** | 0.490 | 83 | 104 | 59 | 46 | 73 | 2 1/4 | 54 |
| 63 | 2 | 10 | **729 530 811** | 0.675 | 100 | 118 | 62 | 58 | 80 | 2 3/4 | 67 |

29 55 05




## Adaptor union ABS/brass metric Rp

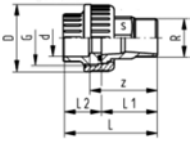
**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS metric
- Union End: Brass with parallel female thread Rp
- Gasket: O-Ring EPDM No. 48 41 00

| d [mm] | Rp [inch] | PN | Code | kg |
|---|---|---|---|---|
| 20 | ½ | 10 | **729 550 506** | 0.084 |
| 25 | ¾ | 10 | **729 550 507** | 0.134 |
| 32 | 1 | 10 | **729 550 508** | 0.179 |
| 40 | 1 ¼ | 10 | **729 550 509** | 0.327 |
| 50 | 1 ½ | 10 | **729 550 510** | 0.452 |
| 63 | 2 | 10 | **729 550 511** | 0.722 |

| d [mm] | Rp [inch] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z1 [mm] | z2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 20 | ½ | 43 | 48 | 22 | 26 | 7 | 10 | 1 | 25 |
| 25 | ¾ | 51 | 54 | 25 | 29 | 9 | 11 | 1 1/4 | 30 |
| 32 | 1 | 58 | 60 | 27 | 33 | 8 | 11 | 1 1/2 | 36 |
| 40 | 1 ¼ | 72 | 70 | 31 | 39 | 10 | 13 | 2 | 48 |
| 50 | 1 ½ | 83 | 81 | 35 | 46 | 14 | 21 | 2 1/4 | 55 |
| 63 | 2 | 100 | 98 | 40 | 58 | 14 | 21 | 2 3/4 | 65 |

29 55 09



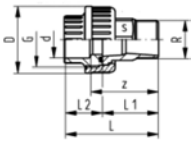

## Adaptor union ABS/brass metric R

**Model:**

- Union Nut: ABS
- Union Bush: Solvent cement socket ABS metric
- Union End: Brass with taper male thread R
- Gasket: O-Ring EPDM No. 48 41 00

| d [mm] | R [inch] | PN | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | ½ | 10 | **729 550 906** | 0.123 | 43 | 63 | 37 | 26 | 47 | 1 | 25 |
| 25 | ½ | 10 | **729 550 957** | 0.185 | 51 | 66 | 37 | 29 | 48 | 1 1/4 | 30 |
| 25 | ¾ | 10 | **729 550 907** | 0.293 | 51 | 71 | 42 | 29 | 52 | 1 1/4 | 30 |
| 25 | 1 | 10 | **729 550 967** | 0.293 | 51 | 75 | 46 | 29 | 57 | 1 1/4 | 30 |
| 32 | ½ | 10 | **729 550 958** | 0.283 | 58 | 70 | 37 | 33 | 48 | 1 1/2 | 36 |

table continued next page



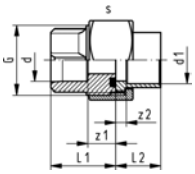

| d [mm] | R [inch] | PN | Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | z [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | ¾ | 10 | **729 550 968** | 0.283 | 58 | 75 | 42 | 33 | 53 | 1 1/2 | 36 |
| 32 | 1 | 10 | **729 550 908** | 0.374 | 58 | 79 | 46 | 33 | 57 | 1 1/2 | 36 |
| 40 | 1 ¼ | 10 | **729 550 909** | 0.503 | 72 | 91 | 52 | 39 | 65 | 2 | 46 |
| 50 | 2 ½ | 10 | **729 550 910** | 0.666 | 83 | 102 | 56 | 46 | 71 | 2 1/4 | 55 |
| 63 | 2 | 10 | **729 550 911** | 1.071 | 100 | 125 | 67 | 58 | 87 | 2 3/4 | 65 |

20 51 01

## Adaptor union ABS/copper for soldering metric

**Model:**

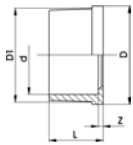
- Union End: Copper
- Union Bush: Solvent cement socket ABS metric
- Union Nut: brass
- Gasket: O-ring EPDM No. 48 41 00




| d [mm] | d1 [mm] | PN | Code | kg | L1 [mm] | L2 [mm] | z1 [mm] | z2 [mm] | G [inch] | s [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 18 | 10 | **720 510 105** | 0.079 | 25 | 17 | 11 | 4 | 3/4 | 32 |
| 20 | 22 | 10 | **720 510 106** | 0.140 | 26 | 19 | 9 | 3 | 1 | 40 |
| 25 | 28 | 10 | **720 510 107** | 0.269 | 29 | 28 | 9 | 6 | 1 1/4 | 50 |
| 32 | 35 | 10 | **720 510 108** | 0.198 | 33 | 27 | 10 | 5 | 1 1/2 | 52 |
| 40 | 42 | 10 | **720 510 109** | 0.350 | 39 | 35 | 12 | 6 | 2 | 66 |
| 50 | 54 | 10 | **720 510 110** | 0.438 | 46 | 46 | 14 | 3 | 2 1/4 | 72 |

# Union spare parts

29 60 01



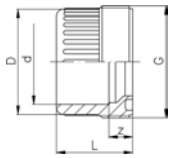

## Union end ABS metric

**Model:**

- Solvent cement socket metric
- For adaptor unions 29 53 02, 29 53 07, 29 55 02, 29 55 07
- For union 29 51 01

| d [mm] | PN | Code | kg | z [mm] | L [mm] | D [mm] | D1 [mm] |
|---|---|---|---|---|---|---|---|
| 16 | 10 | **729 600 105** | 0.004 | 5 | 19 | 24 | 22 |
| 20 | 10 | **729 600 106** | 0.007 | 4 | 21 | 30 | 28 |
| 25 | 10 | **729 600 107** | 0.012 | 5 | 24 | 39 | 36 |
| 32 | 10 | **729 600 108** | 0.016 | 5 | 27 | 44 | 41 |
| 40 | 10 | **729 600 109** | 0.042 | 3 | 31 | 57 | 53 |
| 50 | 10 | **729 600 110** | 0.045 | 3 | 34 | 63 | 59 |
| 63 | 10 | **729 600 111** | 0.084 | 3 | 41 | 78 | 74 |
| 75 | 10 | **729 600 162** | 0.109 | 3 | 47 | 101 | 91 |
| 90 | 10 | **729 600 163** | 0.178 | 5 | 56 | 121 | 108 |
| 110 | 10 | **729 600 164** | 0.295 | 5 | 66 | 146 | 131 |

29 64 01



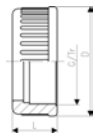

## Union bush ABS metric

**Model:**

- Solvent cement socket metric
- For union 29 51 01
- Jointing face: With O-Ring groove

| d [mm] | PN | Code | kg | z [mm] | D [mm] | L [mm] | G/Tr |
|---|---|---|---|---|---|---|---|
| 16 | 10 | **729 640 105** | 0.008 | 10 | 24 | 24 | 3/4 |
| 20 | 10 | **729 640 106** | 0.011 | 10 | 28 | 26 | 1 |
| 25 | 10 | **729 640 107** | 0.016 | 10 | 33 | 29 | 1 1/4 |
| 32 | 10 | **729 640 108** | 0.027 | 10 | 41 | 33 | 1 1/2 |
| 40 | 10 | **729 640 109** | 0.046 | 12 | 50 | 39 | 2 |
| 50 | 10 | **729 640 110** | 0.058 | 14 | 62 | 46 | 2 1/4 |
| 63 | 10 | **729 640 111** | 0.111 | 18 | 77 | 58 | 2 3/4 |
| 75 | 10 | **729 640 112** | 0.160 | 18 | 93 | 62 | Tr108x5 |
| 90 | 10 | **729 640 123** | 0.274 | 18 | 110 | 69 | Tr128x5 |
| 110 | 10 | **729 640 114** | 0.330 | 11 | 133 | 72 | Tr154x6 |

29 69 04




## Union nut ABS

**Model:**

- For union 23 51 01

| d [mm] | PN | Code | kg | D [mm] | L [mm] | d [mm] | G/Tr |
|---|---|---|---|---|---|---|---|
| 16 | 10 | **729 690 405** | 0.009 | 35 | 21 | | 3/4 |
| 20 | 10 | **729 690 406** | 0.014 | 43 | 23 | | 1 |
| 25 | 10 | **729 690 407** | 0.018 | 53 | 25 | | 1 1/4 |
| 32 | 10 | **729 690 408** | 0.024 | 60 | 27 | | 1 1/2 |
| 40 | 10 | **729 690 409** | 0.049 | 74 | 30 | | 2 |
| 50 | 10 | **729 690 410** | 0.070 | 83 | 34 | | 2 1/4 |
| 63 | 10 | **729 690 411** | 0.101 | 103 | 38 | | 2 3/4 |

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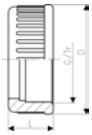


| d [mm] | PN | Code | kg | D [mm] | L [mm] | d [mm] | G/Tr |
|---|---|---|---|---|---|---|---|
| 75 | 10 | **729 690 012** | 0.188 | 135 | 40 | | Tr108x5 |
| 90 | 10 | **729 690 013** | 0.267 | 158 | 43 | | Tr128x5 |
| 110 | 10 | **729 690 014** | 0.423 | 188 | 48 | | Tr154x6 |

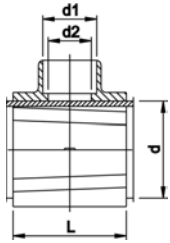
# Branch saddles

69 11 00

## Branch saddle ABS metric

**Model:**

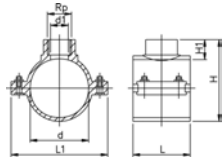
- For ABS-pipes
- Top saddle (ABS) for solvent cementing
- Bottom part and wedges made from PVC-U
- Outlet with solvent cement socket metric
- PN 10




| d [mm] | PN* [bar] | Code | kg | d1 [mm] | d2 [mm] | Tapping-Ø [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 90 | 10 | **169 110 056** | 0.786 | 50 | 40 | 39 | 105 |
| 110 | 10 | **169 110 066** | 0.864 | 50 | 40 | 39 | 105 |
| 160 | 10 | **169 110 097** | 1.185 | 63 | 49 | 48 | 120 |
| 225 | 10 | **169 110 117** | 1.483 | 63 | 49 | 48 | 120 |

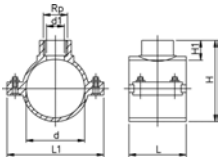
## 654 - Blue clamp saddles with stainless steel reinforcing ring, flat gasket and galvanized bolts and nuts (PN16-PN10)

- water PN16-10
- suitable for PE and PVC pipes
- female thread: ISO 7 (parallel)
- material: PP
- gasket: O-ring with flat lip (NBR)
- reinforcement ring: stainless steel AISI430
- bolts and nuts : galvanized
- colour: blue
- B= N° of bolts
- M= bolt type
- (*) with O-ring gasket




| d [mm] | Rp [inch] | PN | B | M | Code | kg |
|---|---|---|---|---|---|---|
| * 20 | ½ | 16 | 2 | M8X40 | **158 001 041** | 0.119 |
| * 25 | ½ | 16 | 2 | M8X30 | **158 001 042** | 0.110 |
| * 25 | ¾ | 16 | 2 | M8X30 | **158 001 043** | 0.123 |
| * 32 | ½ | 16 | 2 | M8X30 | **158 001 044** | 0.103 |
| * 32 | ¾ | 16 | 2 | M8X30 | **158 001 045** | 0.115 |
| * 32 | 1 | 16 | 2 | M8X40 | **158 001 046** | 0.162 |
| 40 | ½ | 16 | 2 | M8X40 | **158 001 047** | 0.135 |
| 40 | ¾ | 16 | 2 | M8X40 | **158 001 048** | 0.146 |
| 40 | 1 | 16 | 2 | M8X40 | **158 001 049** | 0.153 |
| 50 | ½ | 16 | 4 | M8X40 | **158 001 050** | 0.196 |
| 50 | ¾ | 16 | 4 | M8X40 | **158 001 051** | 0.209 |
| 50 | 1 | 16 | 4 | M8X40 | **158 001 052** | 0.217 |
| 50 | 1 ¼ | 16 | 4 | M8X40 | **158 001 053** | 0.221 |
| 63 | ½ | 16 | 4 | M8X40 | **158 001 054** | 0.212 |
| 63 | ¾ | 16 | 4 | M8X40 | **158 001 055** | 0.222 |
| 63 | 1 | 16 | 4 | M8X40 | **158 001 056** | 0.228 |
| 63 | 1 ¼ | 16 | 4 | M8X40 | **158 001 058** | 0.268 |
| 63 | 1 ½ | 16 | 4 | M8X40 | **158 001 057** | 0.275 |

table continued next page




| d [mm] | Rp [inch] | PN | B | M | Code | kg |
|---|---|---|---|---|---|---|
| 75 | ½ | 16 | 4 | M8X60 | **158 001 059** | 0.364 |
| 75 | ¾ | 16 | 4 | M8X60 | **158 001 060** | 0.376 |
| 75 | 1 | 16 | 4 | M8X60 | **158 001 061** | 0.384 |
| 75 | 1 ¼ | 16 | 4 | M8X60 | **158 001 063** | 0.421 |
| 75 | 1 ½ | 16 | 4 | M8X60 | **158 001 062** | 0.428 |
| 75 | 2 | 16 | 4 | M8X60 | **158 001 064** | 0.437 |
| 90 | ½ | 16 | 4 | M8X60 | **158 001 065** | 0.412 |
| 90 | ¾ | 16 | 4 | M8X60 | **158 001 066** | 0.421 |
| 90 | 1 | 16 | 4 | M8X60 | **158 001 067** | 0.432 |
| 90 | 1 ¼ | 16 | 4 | M8X60 | **158 001 069** | 0.472 |
| 90 | 1 ½ | 16 | 4 | M8X60 | **158 001 068** | 0.474 |
| 90 | 2 | 16 | 4 | M8X60 | **158 001 070** | 0.481 |
| 110 | ½ | 16 | 6 | M8X50 | **158 001 071** | 0.511 |
| 110 | ¾ | 16 | 6 | M8X50 | **158 001 072** | 0.523 |
| 110 | 1 | 16 | 6 | M8X50 | **158 001 073** | 0.533 |
| 110 | 1 ¼ | 16 | 6 | M8X50 | **158 001 075** | 0.565 |
| 110 | 1 ½ | 16 | 6 | M8X50 | **158 001 074** | 0.566 |
| 110 | 2 | 16 | 6 | M8X50 | **158 001 076** | 0.570 |
| * 110 | 3 | 6 | 6 | M8x70 | **158 001 077** | 1.108 |
| 125 | ½ | 16 | 6 | M8X50 | **158 001 078** | 0.578 |
| 125 | ¾ | 16 | 6 | M8X50 | **158 001 079** | 0.590 |
| 125 | 1 | 16 | 6 | M8X50 | **158 001 080** | 0.592 |
| 125 | 1 ¼ | 16 | 6 | M8X50 | **158 001 082** | 0.629 |
| 125 | 1 ½ | 16 | 6 | M8X50 | **158 001 081** | 0.627 |
| 125 | 2 | 16 | 6 | M8X50 | **158 001 083** | 0.640 |
| * 125 | 3 | 6 | 6 | M8X70 | **158 001 084** | 1.009 |
| * 125 | 4 | 6 | 6 | M8X70 | **158 001 085** | 1.051 |
| 140 | ½ | 16 | 6 | M8X70 | **158 001 086** | 0.830 |
| 140 | ¾ | 16 | 6 | M8X70 | **158 001 087** | 0.843 |
| 140 | 1 | 16 | 6 | M8X70 | **158 001 088** | 0.849 |
| 140 | 1 ¼ | 16 | 6 | M8X70 | **158 001 090** | 0.880 |
| 140 | 1 ½ | 16 | 6 | M8X70 | **158 001 089** | 0.892 |
| 140 | 2 | 16 | 6 | M8X70 | **158 001 091** | 0.898 |
| * 140 | 3 | 10 | 6 | M8X70 | **158 001 092** | 1.132 |
| * 140 | 4 | 10 | 6 | M8X70 | **158 001 093** | 1.196 |
| 160 | ½ | 16 | 6 | M8X70 | **158 001 094** | 0.899 |
| 160 | ¾ | 16 | 6 | M8X70 | **158 001 095** | 0.908 |
| 160 | 1 | 16 | 6 | M8X70 | **158 001 096** | 0.917 |
| 160 | 1 ¼ | 16 | 6 | M8X70 | **158 001 098** | 0.950 |
| 160 | 1 ½ | 16 | 6 | M8X70 | **158 001 097** | 0.954 |
| 160 | 2 | 16 | 6 | M8X70 | **158 001 099** | 0.956 |
| * 160 | 3 | 10 | 6 | M8X70 | **158 001 100** | 1.185 |
| * 160 | 4 | 10 | 6 | M8X70 | **158 001 101** | 1.262 |
| * 180 | 1 | 10 | 6 | M10X80 | **158 001 102** | 1.980 |
| * 180 | 1 ¼ | 10 | 6 | M10X80 | **158 001 104** | 2.013 |
| * 180 | 1 ½ | 10 | 6 | M10X80 | **158 001 103** | 2.007 |
| * 180 | 2 | 10 | 6 | M10X80 | **158 001 105** | 2.018 |
| * 180 | 3 | 10 | 6 | M10X80 | **158 001 106** | 2.043 |
| * 180 | 4 | 10 | 6 | M10X80 | **158 001 107** | 2.092 |
| * 200 | 1 ½ | 10 | 6 | M10X80 | **158 001 108** | 1.966 |
| * 200 | 2 | 10 | 6 | M10X80 | **158 001 109** | 1.946 |

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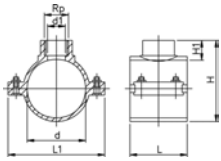


| d [mm] | Rp [inch] | PN | B | M | Code | kg |
|---|---|---|---|---|---|---|
| * 200 | 3 | 10 | 6 | M10X80 | **158 001 110** | 1.980 |
| * 200 | 4 | 10 | 6 | M10X80 | **158 001 111** | 2.020 |
| * 225 | 1 ½ | 10 | 6 | M10X80 | **158 001 112** | 2.049 |
| * 225 | 2 | 10 | 6 | M10X80 | **158 001 113** | 2.050 |
| * 225 | 3 | 10 | 6 | M10X80 | **158 001 114** | 2.150 |
| * 225 | 4 | 10 | 6 | M10X80 | **158 001 115** | 2.184 |
| * 250 | 2 | 10 | 6 | M10X80 | **158 001 116** | 2.472 |
| * 250 | 3 | 10 | 6 | M10X80 | **158 001 117** | 2.466 |
| * 250 | 4 | 10 | 6 | M10X80 | **158 001 118** | 2.478 |
| 280 | 2 | 10 | 6 | M10X160 | **158 001 119** | 3.440 |
| * 280 | 3 | 10 | 6 | M10X160 | **158 001 120** | 3.543 |
| * 280 | 4 | 10 | 6 | M10X160 | **158 001 121** | 3.585 |
| 315 | 2 | 10 | 6 | M10X110 | **158 001 122** | 4.156 |
| * 315 | 3 | 10 | 6 | M10X110 | **158 001 123** | 4.267 |
| * 315 | 4 | 10 | 6 | M10X110 | **158 001 124** | 4.279 |

| d [mm] | Rp [inch] | d1 [mm] | L [mm] | L1 [mm] | H [mm] | H1 [mm] |
|---|---|---|---|---|---|---|
| * 20 | ½ | 12 | 46 | 77 | 59 | 26 |
| * 25 | ½ | 13 | 49 | 79 | 58 | 15 |
| * 25 | ¾ | 13 | 49 | 79 | 58 | 15 |
| * 32 | ½ | 14 | 49 | 79 | 62 | 20 |
| * 32 | ¾ | 14 | 49 | 79 | 62 | 20 |
| * 32 | 1 | 14 | 62 | 87 | 70 | 20 |
| 40 | ½ | 21 | 62 | 86 | 71 | 20 |
| 40 | ¾ | 21 | 62 | 86 | 71 | 20 |
| 40 | 1 | 21 | 62 | 86 | 70 | 19 |
| 50 | ½ | 21 | 62 | 86 | 82 | 20 |
| 50 | ¾ | 21 | 62 | 86 | 82 | 20 |
| 50 | 1 | 21 | 62 | 86 | 82 | 20 |
| 50 | 1 ¼ | 21 | 62 | 86 | 82 | 20 |
| 63 | ½ | 18 | 62 | 101 | 96 | 21 |
| 63 | ¾ | 24 | 62 | 101 | 96 | 21 |
| 63 | 1 | 31 | 62 | 101 | 96 | 21 |
| 63 | 1 ¼ | 31 | 62 | 101 | 96 | 21 |
| 63 | 1 ½ | 31 | 62 | 101 | 96 | 21 |
| 75 | ½ | 16 | 79 | 123 | 102 | 14 |
| 75 | ¾ | 21 | 79 | 123 | 104 | 16 |
| 75 | 1 | 27 | 79 | 123 | 107 | 19 |
| 75 | 1 ¼ | 35 | 79 | 123 | 109 | 21 |
| 75 | 1 ½ | 42 | 79 | 123 | 109 | 21 |
| 75 | 2 | 53 | 79 | 123 | 112 | 24 |
| 90 | ½ | 16 | 87 | 138 | 116 | 14 |
| 90 | ¾ | 21 | 87 | 138 | 118 | 16 |
| 90 | 1 | 27 | 87 | 138 | 121 | 19 |
| 90 | 1 ¼ | 35 | 87 | 138 | 123 | 21 |
| 90 | 1 ½ | 42 | 87 | 138 | 123 | 21 |
| 90 | 2 | 53 | 87 | 138 | 126 | 24 |
| 110 | ½ | 15 | 99 | 152 | 150 | 23 |
| 110 | ¾ | 20 | 99 | 152 | 150 | 23 |
| 110 | 1 | 26 | 99 | 152 | 150 | 23 |
| 110 | 1 ¼ | 35 | 99 | 152 | 150 | 23 |

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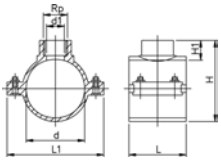



| d [mm] | Rp [inch] | d1 [mm] | L [mm] | L1 [mm] | H [mm] | H1 [mm] |
|---|---|---|---|---|---|---|
| 110 | 1 ½ | 41 | 99 | 152 | 150 | 23 |
| 110 | 2 | 51 | 99 | 152 | 150 | 23 |
| * 110 | 3 | 85 | 99 | 152 | 150 | 23 |
| 125 | ½ | 15 | 101 | 166 | 169 | 24 |
| 125 | ¾ | 20 | 101 | 166 | 169 | 24 |
| 125 | 1 | 26 | 101 | 166 | 169 | 24 |
| 125 | 1 ¼ | 35 | 101 | 166 | 168 | 23 |
| 125 | 1 ½ | 41 | 101 | 166 | 168 | 23 |
| 125 | 2 | 50 | 101 | 166 | 168 | 23 |
| * 125 | 3 | 85 | 139 | 178 | 180 | 37 |
| * 125 | 4 | 90 | 139 | 178 | 181 | 38 |
| 140 | ½ | 18 | 114 | 207 | 191 | 25 |
| 140 | ¾ | 24 | 114 | 207 | 191 | 25 |
| 140 | 1 | 30 | 114 | 207 | 191 | 25 |
| 140 | 1 ¼ | 38 | 114 | 207 | 191 | 25 |
| 140 | 1 ½ | 45 | 114 | 207 | 191 | 24 |
| 140 | 2 | 50 | 114 | 207 | 191 | 24 |
| * 140 | 3 | 85 | 142 | 208 | 201 | 38 |
| * 140 | 4 | 90 | 142 | 208 | 201 | 38 |
| 160 | ½ | 18 | 114 | 226 | 215 | 24 |
| 160 | ¾ | 24 | 114 | 226 | 215 | 24 |
| 160 | 1 | 30 | 114 | 226 | 215 | 24 |
| 160 | 1 ¼ | 37 | 114 | 226 | 215 | 24 |
| 160 | 1 ½ | 45 | 114 | 226 | 215 | 24 |
| 160 | 2 | 51 | 114 | 226 | 215 | 24 |
| * 160 | 3 | 84 | 142 | 228 | 222 | 38 |
| * 160 | 4 | 90 | 142 | 228 | 222 | 38 |
| * 180 | 1 | 30 | 169 | 262 | 265 | 38 |
| * 180 | 1 ¼ | 36 | 169 | 262 | 265 | 38 |
| * 180 | 1 ½ | 54 | 169 | 262 | 265 | 38 |
| * 180 | 2 | 54 | 169 | 262 | 265 | 38 |
| * 180 | 3 | 85 | 169 | 262 | 265 | 38 |
| * 180 | 4 | 103 | 169 | 262 | 267 | 40 |
| * 200 | 1 ½ | 45 | 169 | 262 | 265 | 38 |
| * 200 | 2 | 54 | 169 | 262 | 265 | 38 |
| * 200 | 3 | 85 | 169 | 262 | 265 | 38 |
| * 200 | 4 | 103 | 169 | 262 | 267 | 40 |
| * 225 | 1 ½ | 45 | 145 | 287 | 287 | 26 |
| * 225 | 2 | 51 | 145 | 287 | 287 | 26 |
| * 225 | 3 | 85 | 174 | 287 | 295 | 37 |
| * 225 | 4 | 103 | 174 | 287 | 295 | 38 |
| * 250 | 2 | 55 | 178 | 310 | 314 | 38 |
| * 250 | 3 | 85 | 178 | 310 | 314 | 38 |
| * 250 | 4 | 103 | 178 | 310 | 314 | 38 |
| 280 | 2 | 51 | 179 | 335 | 326 | 31 |
| * 280 | 3 | 78 | 179 | 335 | 338 | 41 |
| * 280 | 4 | 98 | 179 | 335 | 338 | 46 |
| 315 | 2 | 51 | 246 | 390 | 350 | 31 |
| * 315 | 3 | 78 | 246 | 390 | 363 | 41 |
| * 315 | 4 | 98 | 246 | 390 | 363 | 46 |

# Ball valves

DN10/15 - 50

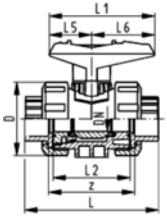
## Ball valve type 546 ABS
## With solvent cement sockets BS Inch

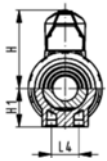
**Model:**

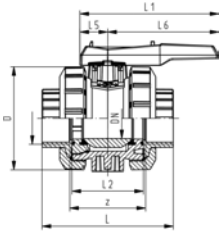
- For easy installation and removal
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)
- Ball seals PTFE
- Without mounting inserts

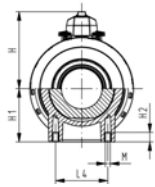
**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+




| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 71 | **169 546 201** | 0.112 |
| ½ | 15 | 10 | 185 | **169 546 202** | 0.114 |
| ¾ | 20 | 10 | 350 | **169 546 203** | 0.178 |
| 1 | 25 | 10 | 700 | **169 546 204** | 0.258 |
| 1 ¼ | 32 | 10 | 1000 | **169 546 205** | 0.457 |
| 1 ½ | 40 | 10 | 1600 | **169 546 206** | 0.642 |
| 2 | 50 | 10 | 3100 | **169 546 207** | 1.175 |
| | 65 | 10 | 5000 | **169 546 008** | 3.900 |
| 3 | 80 | 10 | 7000 | **169 546 209** | 5.700 |
| 4 | 100 | 10 | 11000 | **169 546 210** | 9.100 |

| Inch | D [mm] | H [mm] | H1 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 57 | 27 | 92 | 77 | 56 | 25 | 32 | 45 | 60 |
| ½ | 50 | 57 | 27 | 95 | 77 | 56 | 25 | 32 | 45 | 60 |
| ¾ | 58 | 67 | 30 | 110 | 97 | 65 | 25 | 39 | 58 | 69 |
| 1 | 68 | 73 | 36 | 123 | 97 | 71 | 25 | 39 | 58 | 75 |
| 1 ¼ | 84 | 90 | 44 | 146 | 128 | 85 | 45 | 54 | 74 | 89 |
| 1 ½ | 97 | 97 | 51 | 157 | 128 | 89 | 45 | 54 | 74 | 97 |
| 2 | 124 | 116 | 64 | 183 | 152 | 101 | 45 | 66 | 87 | 110 |
| | 166 | 149 | 85 | 233 | 270 | 136 | 70 | 64 | 206 | 144 |
| 3 | 200 | 161 | 105 | 254 | 270 | 141 | 70 | 64 | 206 | 151 |
| 4 | 238 | 178 | 123 | 301 | 320 | 164 | 120 | 64 | 256 | 174 |

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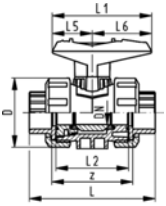


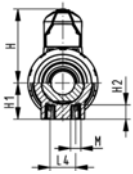


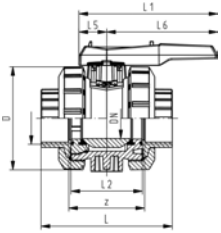


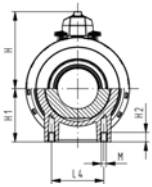


## Ball valve type 546 ABS
## With mounting inserts
## With solvent cement sockets BS Inch

**Model:**

- For easy installation and removal
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)
- Ball seals PTFE
- Integrated stainless steel mounting inserts

**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+

| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 71 | **169 546 241** | 0.112 |
| ½ | 15 | 10 | 185 | **169 546 242** | 0.114 |
| ¾ | 20 | 10 | 350 | **169 546 243** | 0.178 |
| 1 | 25 | 10 | 700 | **169 546 244** | 0.258 |
| 1 ¼ | 32 | 10 | 1000 | **169 546 245** | 0.457 |
| 1 ½ | 40 | 10 | 1600 | **169 546 246** | 0.642 |
| 2 | 50 | 10 | 3100 | **169 546 247** | 1.175 |
| | 65 | 10 | 5000 | **169 546 068** | 3.900 |
| 3 | 80 | 10 | 7000 | **169 546 249** | 5.700 |
| 4 | 100 | 10 | 11000 | **169 546 250** | 9.100 |

| Inch | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 57 | 27 | 12 | 92 | 77 | 56 | 25 | 32 | 45 | M6 | 60 |
| ½ | 50 | 57 | 27 | 12 | 95 | 77 | 56 | 25 | 32 | 45 | M6 | 60 |
| ¾ | 58 | 67 | 30 | 12 | 110 | 97 | 65 | 25 | 39 | 58 | M6 | 69 |
| 1 | 68 | 73 | 36 | 12 | 123 | 97 | 71 | 25 | 39 | 58 | M6 | 75 |
| 1 ¼ | 84 | 90 | 44 | 15 | 146 | 128 | 85 | 45 | 54 | 74 | M8 | 89 |
| 1 ½ | 97 | 97 | 51 | 15 | 157 | 128 | 89 | 45 | 54 | 74 | M8 | 97 |
| 2 | 124 | 116 | 64 | 15 | 183 | 152 | 101 | 45 | 66 | 87 | M8 | 110 |
| | 166 | 149 | 85 | 15 | 233 | 270 | 136 | 70 | 64 | 206 | M8 | 144 |
| 3 | 200 | 161 | 105 | 15 | 254 | 270 | 141 | 70 | 64 | 206 | M8 | 151 |
| 4 | 238 | 178 | 123 | 22 | 301 | 320 | 164 | 120 | 64 | 256 | M12 | 174 |

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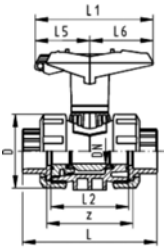
## Ball valve type 546 ABS
## With lockable handle
## With solvent cement sockets BS Inch

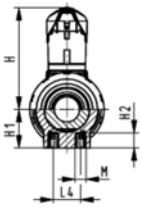
**Model:**

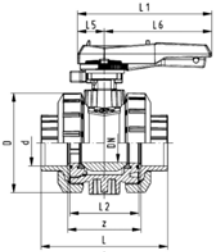
- For easy installation and removal
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Lockable hand lever with ratchet settings

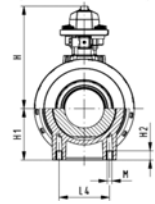
**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+




| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 71 | **169 546 221** | 0.121 |
| ½ | 15 | 10 | 185 | **169 546 222** | 0.123 |
| ¾ | 20 | 10 | 350 | **169 546 223** | 0.193 |
| 1 | 25 | 10 | 700 | **169 546 224** | 0.273 |
| 1 ¼ | 32 | 10 | 1000 | **169 546 225** | 0.480 |
| 1 ½ | 40 | 10 | 1600 | **169 546 226** | 0.665 |
| 2 | 50 | 10 | 3100 | **169 546 227** | 1.205 |
| | 65 | 10 | 5000 | **169 546 088** | 4.200 |
| 3 | 80 | 10 | 7000 | **169 546 229** | 6.100 |
| 4 | 100 | | 11000 | **169 546 230** | 9.400 |

| Inch | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 79 | 27 | 12 | 92 | 87 | 56 | 25 | 42 | 45 | M6 | 60 |
| ½ | 50 | 79 | 27 | 12 | 95 | 87 | 56 | 25 | 42 | 45 | M6 | 60 |
| ¾ | 58 | 88 | 30 | 12 | 110 | 108 | 65 | 25 | 50 | 58 | M6 | 69 |
| 1 | 68 | 94 | 36 | 12 | 123 | 108 | 71 | 25 | 50 | 58 | M6 | 75 |
| 1 ¼ | 84 | 113 | 44 | 15 | 146 | 140 | 85 | 45 | 66 | 75 | M8 | 89 |
| 1 ½ | 97 | 119 | 51 | 15 | 157 | 140 | 89 | 45 | 66 | 75 | M8 | 97 |
| 2 | 124 | 141 | 64 | 15 | 183 | 165 | 101 | 45 | 78 | 87 | M8 | 110 |
| | 166 | 224 | 85 | 15 | 233 | 270 | 136 | 70 | 64 | 206 | M8 | 144 |
| 3 | 200 | 235 | 105 | 15 | 254 | 270 | 141 | 70 | 64 | 206 | M8 | 151 |
| 4 | 238 | 245 | 123 | 22 | 301 | 320 | 164 | 120 | 64 | 256 | M12 | 174 |

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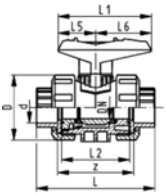


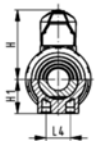


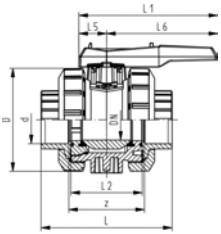


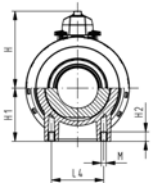


## Ball valve type 546 ABS
## With solvent cement sockets metric

**Model:**

- For easy installation and removal
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)
- Ball seals PTFE
- Without mounting inserts

**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 71 | **169 546 001** | 0.112 |
| 20 | 15 | 10 | 185 | **169 546 002** | 0.114 |
| 25 | 20 | 10 | 350 | **169 546 003** | 0.178 |
| 32 | 25 | 10 | 700 | **169 546 004** | 0.258 |
| 40 | 32 | 10 | 1000 | **169 546 005** | 0.457 |
| 50 | 40 | 10 | 1600 | **169 546 006** | 0.642 |
| 63 | 50 | 10 | 3100 | **169 546 007** | 1.175 |
| 75 | 65 | 10 | 5000 | **169 546 008** | 3.900 |
| 90 | 80 | 10 | 7000 | **169 546 009** | 5.700 |
| 110 | 100 | 10 | 11000 | **169 546 010** | 9.100 |

| d [mm] | D [mm] | H [mm] | H1 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 57 | 27 | 92 | 77 | 56 | 25 | 32 | 45 | 64 |
| 20 | 50 | 57 | 27 | 95 | 77 | 56 | 25 | 32 | 45 | 64 |
| 25 | 58 | 67 | 30 | 110 | 97 | 65 | 25 | 39 | 58 | 72 |
| 32 | 68 | 73 | 36 | 123 | 97 | 71 | 25 | 39 | 58 | 79 |
| 40 | 84 | 90 | 44 | 146 | 128 | 85 | 45 | 54 | 74 | 94 |
| 50 | 97 | 97 | 51 | 157 | 128 | 89 | 45 | 54 | 74 | 95 |
| 63 | 124 | 116 | 64 | 183 | 152 | 101 | 45 | 66 | 87 | 107 |
| 75 | 166 | 149 | 85 | 233 | 270 | 136 | 70 | 64 | 206 | 144 |
| 90 | 200 | 161 | 105 | 254 | 270 | 141 | 70 | 64 | 206 | 151 |
| 110 | 238 | 178 | 123 | 301 | 320 | 164 | 120 | 64 | 256 | 174 |

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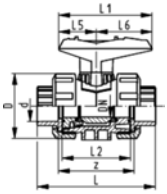
## Ball valve type 546 ABS
## With mounting inserts
## With solvent cement sockets metric

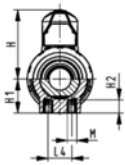
**Model:**

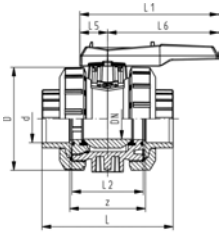
- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)

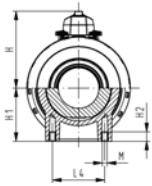
**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+




| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 71 | **169 546 061** | 0.112 |
| 20 | 15 | 10 | 185 | **169 546 062** | 0.114 |
| 25 | 20 | 10 | 350 | **169 546 063** | 0.178 |
| 32 | 25 | 10 | 700 | **169 546 064** | 0.258 |
| 40 | 32 | 10 | 1000 | **169 546 065** | 0.457 |
| 50 | 40 | 10 | 1600 | **169 546 066** | 0.642 |
| 63 | 50 | 10 | 3100 | **169 546 067** | 1.175 |
| 75 | 65 | 10 | 5000 | **169 546 068** | 3.900 |
| 90 | 80 | 10 | 7000 | **169 546 069** | 5.700 |
| 110 | 100 | 10 | 11000 | **169 546 070** | 9.100 |

| d [mm] | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 57 | 27 | 12 | 92 | 77 | 56 | 25 | 32 | 45 | M6 | 64 |
| 20 | 50 | 57 | 27 | 12 | 95 | 77 | 56 | 25 | 32 | 45 | M6 | 64 |
| 25 | 58 | 67 | 30 | 12 | 110 | 97 | 65 | 25 | 39 | 58 | M6 | 72 |
| 32 | 68 | 73 | 36 | 12 | 123 | 97 | 71 | 25 | 39 | 58 | M6 | 79 |
| 40 | 84 | 90 | 44 | 15 | 146 | 128 | 85 | 45 | 54 | 74 | M8 | 94 |
| 50 | 97 | 97 | 51 | 15 | 157 | 128 | 89 | 45 | 54 | 74 | M8 | 95 |
| 63 | 124 | 116 | 64 | 15 | 183 | 152 | 101 | 45 | 66 | 87 | M8 | 107 |
| 75 | 166 | 149 | 85 | 15 | 233 | 270 | 136 | 70 | 64 | 206 | M8 | 144 |
| 90 | 200 | 161 | 105 | 15 | 254 | 270 | 141 | 70 | 64 | 206 | M8 | 151 |
| 110 | 238 | 178 | 123 | 22 | 301 | 320 | 164 | 120 | 64 | 256 | M12 | 174 |

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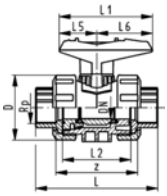


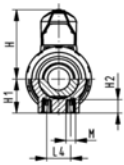


## Ball valve type 546 ABS
## With mounting inserts
## With threaded sockets Rp

**Model:**

- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- z-dimension, valve end and union nut are not compatible with type 346

**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+

| Rp [inch] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 71 | **169 546 021** | 0.112 |
| ½ | 15 | 10 | 185 | **169 546 022** | 0.114 |
| ¾ | 20 | 10 | 350 | **169 546 023** | 0.178 |
| 1 | 25 | 10 | 700 | **169 546 024** | 0.258 |
| 1 ¼ | 32 | 10 | 1000 | **169 546 025** | 0.457 |
| 1 ½ | 40 | 10 | 1600 | **169 546 026** | 0.642 |
| 2 | 50 | 10 | 3100 | **169 546 027** | 1.175 |

| Rp [inch] | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 57 | 27 | 12 | 95 | 77 | 56 | 25 | 32 | 45 | M6 | 69 |
| ½ | 50 | 57 | 27 | 12 | 100 | 77 | 56 | 25 | 32 | 45 | M6 | 67 |
| ¾ | 58 | 67 | 30 | 12 | 114 | 97 | 65 | 25 | 39 | 58 | M6 | 78 |
| 1 | 68 | 73 | 36 | 12 | 127 | 97 | 71 | 25 | 39 | 58 | M6 | 85 |
| 1 ¼ | 84 | 90 | 44 | 15 | 146 | 128 | 85 | 45 | 54 | 74 | M8 | 100 |
| 1 ½ | 97 | 97 | 51 | 15 | 152 | 128 | 89 | 45 | 54 | 74 | M8 | 106 |
| 2 | 124 | 116 | 64 | 15 | 177 | 152 | 101 | 45 | 66 | 87 | M8 | 121 |

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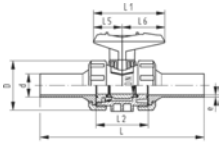
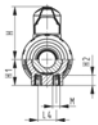



## Ball valve type 546 ABS
## With mounting inserts
## With butt fusion spigots long PE100 SDR11 metric

**Model:**

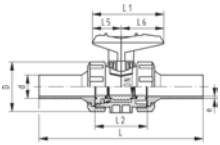
- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)

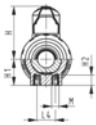
**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | 10 | 185 | **800 024 832** | 0.150 |
| 25 | 20 | 10 | 350 | **800 024 834** | 0.220 |
| 32 | 25 | 10 | 700 | **800 015 141** | 0.310 |

table continued next page

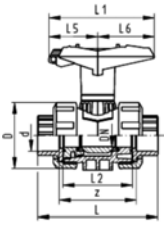


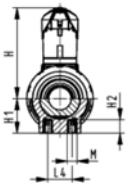



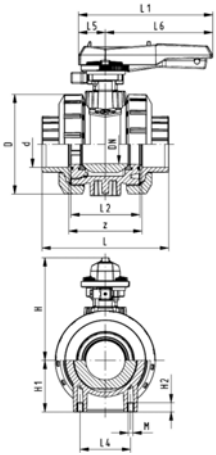

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 40 | 32 | 10 | 1000 | **800 015 142** | 0.530 |
| 50 | 40 | 10 | 1600 | **800 015 179** | 0.740 |
| 63 | 50 | 10 | 3100 | **800 015 143** | 1.370 |

| d [mm] | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | e [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 50 | 57 | 27 | 12 | 193 | 77 | 56 | 25 | 32 | 45 | M6 | 2,25 |
| 25 | 58 | 67 | 30 | 12 | 216 | 97 | 65 | 25 | 39 | 58 | M6 | 2,3 |
| 32 | 68 | 73 | 36 | 12 | 223 | 97 | 71 | 25 | 39 | 58 | M6 | 2,9 |
| 40 | 84 | 90 | 44 | 15 | 249 | 128 | 85 | 45 | 54 | 74 | M8 | 3,7 |
| 50 | 97 | 97 | 51 | 15 | 271 | 128 | 89 | 45 | 54 | 74 | M8 | 4,6 |
| 63 | 124 | 116 | 64 | 15 | 321 | 152 | 101 | 45 | 66 | 87 | M8 | 5,8 |

DN10/15 - 50




## Ball valve type 546 ABS
## With lockable handle
## With solvent cement sockets metric

**Model:**

- For easy installation and removal
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- z-dimension, valve end and union nut are **not compatible** with type 346 (DN10/15-50) resp. type 370 (DN65-100)
- Lockable hand lever with ratchet settings

**Option:**

- Individual configuration of the valve (see diagram)
- Multifunctional module with integrated limit switches
- Pneumatic or electric actuators from +GF+

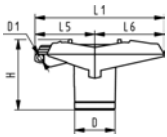
| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 71 | **169 546 081** | 0.121 |
| 20 | 15 | 10 | 185 | **169 546 082** | 0.123 |
| 25 | 20 | 10 | 350 | **169 546 083** | 0.193 |
| 32 | 25 | 10 | 700 | **169 546 084** | 0.273 |
| 40 | 32 | 10 | 1000 | **169 546 085** | 0.480 |
| 50 | 40 | 10 | 1600 | **169 546 086** | 0.665 |
| 63 | 50 | 10 | 3100 | **169 546 087** | 1.205 |
| 75 | 65 | 10 | 5000 | **169 546 088** | 4.200 |
| 90 | 80 | 10 | 7000 | **169 546 089** | 6.100 |
| 110 | 100 | 10 | 11000 | **169 546 090** | 9.400 |

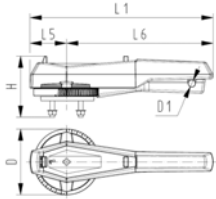
| d [mm] | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | M | z [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 79 | 27 | 12 | 92 | 87 | 56 | 25 | 42 | 45 | M6 | 64 |
| 20 | 50 | 79 | 27 | 12 | 95 | 87 | 56 | 25 | 42 | 45 | M6 | 64 |
| 25 | 58 | 88 | 30 | 12 | 110 | 108 | 65 | 25 | 50 | 58 | M6 | 72 |
| 32 | 68 | 94 | 36 | 12 | 123 | 108 | 71 | 25 | 50 | 58 | M6 | 79 |
| 40 | 84 | 113 | 44 | 15 | 146 | 140 | 85 | 45 | 66 | 75 | M8 | 94 |
| 50 | 97 | 119 | 51 | 15 | 157 | 140 | 89 | 45 | 66 | 75 | M8 | 95 |
| 63 | 124 | 141 | 64 | 15 | 183 | 165 | 101 | 45 | 78 | 87 | M8 | 107 |
| 75 | 166 | 224 | 85 | 15 | 233 | 270 | 136 | 70 | 64 | 206 | M8 | 144 |
| 90 | 200 | 235 | 105 | 15 | 254 | 270 | 141 | 70 | 64 | 206 | M8 | 151 |
| 110 | 238 | 245 | 123 | 22 | 301 | 320 | 164 | 120 | 64 | 256 | M12 | 174 |


## Multifunctional handle 546 red (K11)
## With ratchet settings lockable

**Note:**

To retrofit the ball valve 546 with the multifunctional handle a multifunction module is neccessary in the dimensions DN65-100



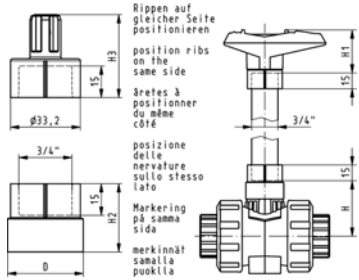

| d-d [mm] | DN-DN [mm] | Code | kg | D [mm] | D1 [mm] | H [mm] | L1 [mm] | L5 [mm] | L6 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 16 - 20 | 10 - 15 | **167 484 100** | 0.026 | 26 | 5 | 53 | 87 | 42 | 45 |
| - 25 | - 20 | **167 484 101** | 0.045 | 34 | 5 | 59 | 108 | 50 | 58 |
| - 32 | - 25 | **167 484 102** | 0.045 | 34 | 5 | 59 | 108 | 50 | 58 |
| - 40 | - 32 | **167 484 103** | 0.082 | 40 | 5 | 69 | 140 | 66 | 75 |
| - 50 | - 40 | **167 484 104** | 0.082 | 40 | 5 | 69 | 140 | 66 | 75 |
| - 63 | - 50 | **167 484 105** | 0.104 | 44 | 5 | 80 | 165 | 78 | 87 |
| - 75 | - 65 | **161 486 689** | 0.480 | 115 | 12 | 105 | 270 | 64 | 206 |
| - 90 | - 80 | **161 486 690** | 0.480 | 115 | 12 | 105 | 270 | 64 | 206 |
| 110 - 140 | 100 - 125 | **161 486 691** | 0.480 | 115 | 12 | 107 | 320 | 64 | 256 |

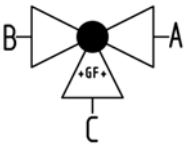
## Handle extension 546 PVC-U inch BS/ASTM

**Model:**

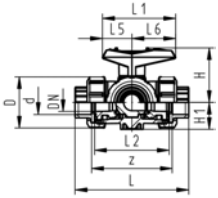
- For Ball Valve Type 546

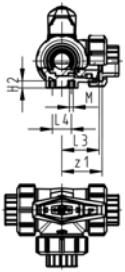
| DN-DN [mm] | Inch | Code | kg | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | D [mm] |
|---|---|---|---|---|---|---|---|---|
| 10 - 15 | 3/8-1/2 | **161 486 443** | 0.032 | 41 | 52 | 29 | 36 | 26 |
| 20 - 25 | 3/4-1 | **161 486 444** | 0.037 | 50 | 62 | 32 | 39 | 36 |
| 32 - 40 | 1 1/4-1 1/2 | **161 486 445** | 0.047 | 65 | 76 | 34 | 44 | 40 |
| 50 - | 2 | **161 486 446** | 0.058 | 84 | 87 | 37 | 48 | 44 |









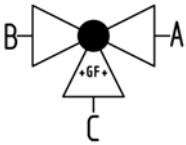

## 3-Way ball valve type 543 ABS
## Horizontal/L-port
## With solvent cement sockets metric

**Model:**

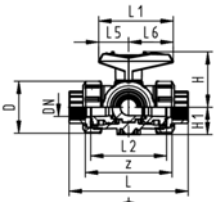
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-C opened, see flow scheme

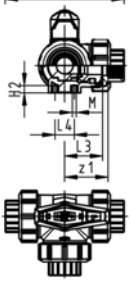
| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 50 | **169 543 001** | 0.187 |
| 20 | 15 | 10 | 75 | **169 543 002** | 0.192 |
| 25 | 20 | 10 | 150 | **169 543 003** | 0.276 |
| 32 | 25 | 10 | 280 | **169 543 004** | 0.420 |
| 40 | 32 | 10 | 480 | **169 543 005** | 0.716 |
| 50 | 40 | 10 | 620 | **169 543 006** | 1.061 |
| 63 | 50 | 10 | 1230 | **169 543 007** | 2.064 |

| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 109 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 81 | 40 |
| 20 | 50 | 112 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 81 | 40 |
| 25 | 58 | 131 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 94 | 47 |
| 32 | 68 | 151 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 107 | 54 |
| 40 | 84 | 181 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 130 | 65 |
| 50 | 97 | 205 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 143 | 72 |
| 63 | 124 | 261 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 185 | 92 |








## 3-Way ball valve type 543 ABS
## Horizontal/L-port
## With threaded sockets Rp

**Model:**

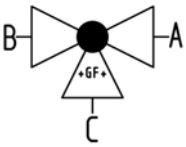
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-C opened, see flow scheme

| Rp [inch] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 50 | **169 543 041** | 0.187 |
| ½ | 15 | 10 | 75 | **169 543 042** | 0.192 |
| ¾ | 20 | 10 | 150 | **169 543 043** | 0.276 |
| 1 | 25 | 10 | 280 | **169 543 044** | 0.420 |
| 1 ¼ | 32 | 10 | 480 | **169 543 045** | 0.716 |
| 1 ½ | 40 | 10 | 620 | **169 543 046** | 1.061 |
| 2 | 50 | 10 | 1230 | **169 543 047** | 2.064 |

| Rp [inch] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 113 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 87 | 43 |
| ½ | 50 | 117 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 85 | 42 |
| ¾ | 58 | 135 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 100 | 50 |
| 1 | 68 | 155 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 113 | 57 |
| 1 ¼ | 84 | 179 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 134 | 67 |
| 1 ½ | 97 | 201 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 155 | 78 |
| 2 | 124 | 255 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 199 | 99 |

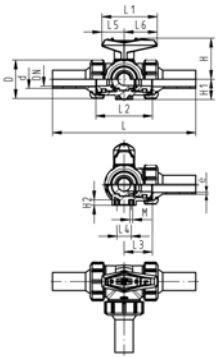
## 3-Way ball valve type 543 ABS
## Horizontal/L-port
## With butt fusion spigots long
## PE100 SDR11 metric

**Model:**

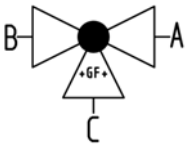


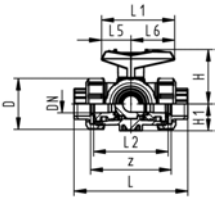

- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-C opened, see flow scheme

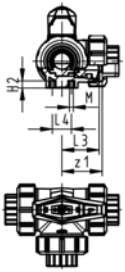

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | 10 | 75 | **169 543 302** | 0.203 |
| 25 | 20 | 10 | 150 | **169 543 303** | 0.296 |
| 32 | 25 | 10 | 280 | **169 543 304** | 0.450 |
| 40 | 32 | 10 | 480 | **169 543 305** | 0.762 |
| 50 | 40 | 10 | 620 | **169 543 306** | 1.161 |
| 63 | 50 | 10 | 1230 | **169 543 307** | 2.509 |




| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | e [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 50 | 210 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 2.3 |
| 25 | 58 | 237 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 2.3 |
| 32 | 68 | 251 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 2.9 |
| 40 | 84 | 283 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 3.7 |
| 50 | 97 | 319 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 4.6 |
| 63 | 124 | 399 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 5.8 |



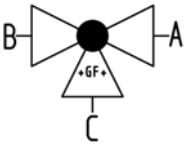

## 3-Way ball valve type 543 ABS
## Horizontal/L-port
## With solvent cement sockets BS

**Model:**

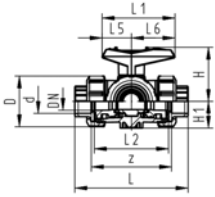
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-C opened, see flow scheme

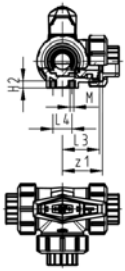
| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 50 | **169 543 061** | 0.187 |
| ½ | 15 | 10 | 75 | **169 543 062** | 0.192 |
| ¾ | 20 | 10 | 150 | **169 543 063** | 0.276 |
| 1 | 25 | 10 | 280 | **169 543 064** | 0.420 |
| 1 ¼ | 32 | 10 | 480 | **169 543 065** | 0.716 |
| 1 ½ | 40 | 10 | 620 | **169 543 066** | 1.061 |
| 2 | 50 | 10 | 1230 | **169 543 067** | 2.064 |

| Inch | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 109 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 77 | 38 |
| ½ | 50 | 112 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 77 | 38 |
| ¾ | 58 | 131 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 90 | 45 |
| 1 | 68 | 151 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 103 | 52 |
| 1 ¼ | 84 | 181 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 124 | 62 |
| 1 ½ | 97 | 205 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 145 | 73 |
| 2 | 124 | 261 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 189 | 94 |







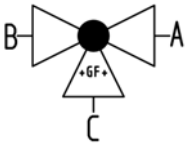

## 3-Way ball valve type 543 ABS
## Horizontal/T-port
## With solvent cement sockets metric

**Model:**

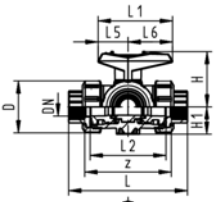
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-B-C opened, see flow scheme

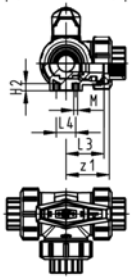
| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 140 | **169 543 201** | 0.186 |
| 20 | 15 | 10 | 200 | **169 543 202** | 0.191 |
| 25 | 20 | 10 | 470 | **169 543 203** | 0.274 |
| 32 | 25 | 10 | 793 | **169 543 204** | 0.415 |
| 40 | 32 | 10 | 1290 | **169 543 205** | 0.708 |
| 50 | 40 | 10 | 1910 | **169 543 206** | 1.045 |
| 63 | 50 | 10 | 3100 | **169 543 207** | 2.030 |

| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 109 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 81 | 40 |
| 20 | 50 | 112 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 81 | 40 |
| 25 | 58 | 131 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 94 | 47 |
| 32 | 68 | 151 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 107 | 54 |
| 40 | 84 | 181 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 130 | 65 |
| 50 | 97 | 205 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 143 | 72 |
| 63 | 124 | 261 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 185 | 92 |








## 3-Way ball valve type 543 ABS
## Horizontal/T-port
## With threaded sockets Rp

**Model:**

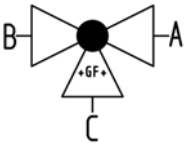
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-B-C opened, see flow scheme

| Rp [inch] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 140 | **169 543 241** | 0.186 |
| ½ | 15 | 10 | 200 | **169 543 242** | 0.191 |
| ¾ | 20 | 10 | 470 | **169 543 243** | 0.274 |
| 1 | 25 | 10 | 793 | **169 543 244** | 0.415 |
| 1 ¼ | 32 | 10 | 1290 | **169 543 245** | 0.708 |
| 1 ½ | 40 | 10 | 1910 | **169 543 246** | 1.045 |
| 2 | 50 | 10 | 3100 | **169 543 247** | 2.030 |

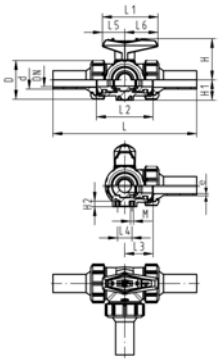
| Rp [inch] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 113 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 87 | 43 |
| ½ | 50 | 117 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 85 | 42 |
| ¾ | 58 | 135 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 100 | 50 |
| 1 | 68 | 155 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 113 | 57 |
| 1 ¼ | 84 | 179 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 134 | 67 |
| 1 ½ | 97 | 201 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 155 | 78 |
| 2 | 124 | 255 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 199 | 99 |

## 3-Way ball valve type 543 ABS
## Horizontal/T-port
## With butt fusion spigots long
## PE100 SDR11 metric

**Model:**

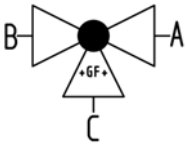



- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-B-C opened, see flow scheme

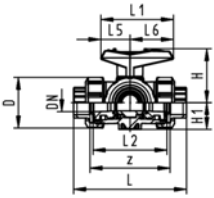



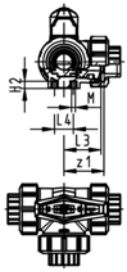

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | 10 | 200 | **169 543 322** | 0.203 |
| 25 | 20 | 10 | 470 | **169 543 323** | 0.296 |
| 32 | 25 | 10 | 793 | **169 543 324** | 0.450 |
| 40 | 32 | 10 | 1290 | **169 543 325** | 0.762 |
| 50 | 40 | 10 | 1910 | **169 543 326** | 1.161 |
| 63 | 50 | 10 | 3100 | **169 543 327** | 2.509 |

| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | e [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 50 | 210 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 2.3 |
| 25 | 58 | 237 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 2.3 |
| 32 | 68 | 251 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 2.9 |
| 40 | 84 | 283 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 3.7 |
| 50 | 97 | 319 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 4.6 |
| 63 | 124 | 399 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 5.8 |







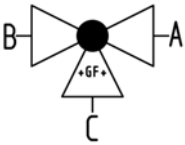

## 3-Way ball valve type 543 ABS
## Horizontal/T-port
## With solvent cement sockets BS

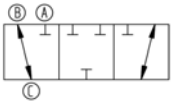
**Model:**

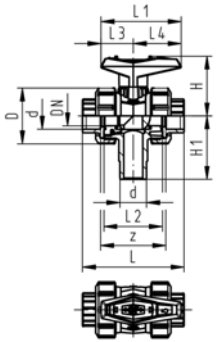
- For easy installation and removal (valve end and union nut are compatible with type 546)
- Ball seals PTFE
- Pneumatic or electric actuator available separately
- Angle of operation 360° without turn limiter
- Turn limiter 90° enclosed, in different positions usable as a clip-on ring
- Integrated stainless steel mounting inserts
- Delivery status A-B-C opened, see flow scheme

| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 140 | **169 543 261** | 0.186 |
| ½ | 15 | 10 | 200 | **169 543 262** | 0.191 |
| ¾ | 20 | 10 | 470 | **169 543 263** | 0.274 |
| 1 | 25 | 10 | 793 | **169 543 264** | 0.415 |
| 1 ¼ | 32 | 10 | 1290 | **169 543 265** | 0.708 |
| 1 ½ | 40 | 10 | 1910 | **169 543 266** | 1.045 |
| 2 | 50 | 10 | 3100 | **169 543 267** | 2.030 |

| Inch | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | z1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 109 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 77 | 38 |
| ½ | 50 | 112 | 77 | 73 | 36 | 25 | 32 | 45 | 57 | 28 | 8 | 6 | 77 | 38 |
| ¾ | 58 | 131 | 97 | 86 | 43 | 25 | 39 | 58 | 67 | 32 | 8 | 6 | 90 | 45 |
| 1 | 68 | 151 | 97 | 99 | 50 | 25 | 39 | 58 | 73 | 36 | 8 | 6 | 103 | 52 |
| 1 ¼ | 84 | 181 | 128 | 120 | 60 | 45 | 54 | 74 | 90 | 45 | 9 | 8 | 124 | 62 |
| 1 ½ | 97 | 205 | 128 | 137 | 69 | 45 | 54 | 74 | 97 | 51 | 9 | 8 | 145 | 73 |
| 2 | 124 | 261 | 152 | 179 | 89 | 45 | 66 | 87 | 116 | 65 | 9 | 8 | 189 | 94 |




## 3-Way ball valve type 543 ABS
## Vertical/L-port
## With solvent cement sockets metric

**Model:**

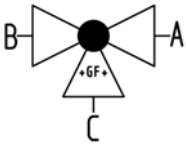
- Vertical inlet solvent cement spigot metric
- Easy installation and removal using union on third outlet
- Ball seals PTFE
- Electric actuator available separately
- Angle of operation 360° without turn limiter
- Delivery status B-C opened, see flow scheme

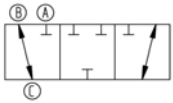
**Mode of action:**

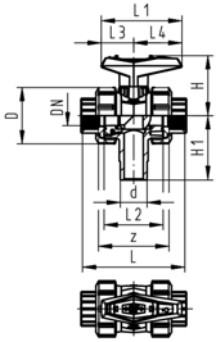
- For interconnection of two inputs

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 10 | 49 | **169 543 401** | 0.124 |
| 20 | 15 | 10 | 77 | **169 543 402** | 0.127 |
| 25 | 20 | 10 | 146 | **169 543 403** | 0.194 |
| 32 | 25 | 10 | 260 | **169 543 404** | 0.284 |
| 40 | 32 | 10 | 437 | **169 543 405** | 0.475 |
| 50 | 40 | 10 | 667 | **169 543 406** | 0.676 |
| 63 | 50 | 10 | 1293 | **169 543 407** | 1.234 |

| d [mm] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | H [mm] | H1 [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 16 | 50 | 92 | 77 | 56 | 32 | 45 | 57 | 62 | 64 |
| 20 | 50 | 95 | 77 | 56 | 32 | 45 | 57 | 62 | 64 |
| 25 | 58 | 111 | 97 | 66 | 39 | 58 | 67 | 72 | 74 |
| 32 | 68 | 123 | 97 | 71 | 39 | 58 | 73 | 77 | 79 |
| 40 | 84 | 146 | 128 | 85 | 54 | 74 | 90 | 87 | 95 |
| 50 | 97 | 157 | 128 | 89 | 54 | 74 | 97 | 97 | 95 |
| 63 | 124 | 183 | 152 | 101 | 66 | 87 | 116 | 112 | 107 |




## 3-Way ball valve type 543 ABS
## Vertical/L-port
## With threaded sockets Rp

**Model:**

- Vertical inlet solvent cement spigot metric
- Easy installation and removal using union on third outlet
- Ball seals PTFE
- Electric actuator available separately
- Angle of operation 360° without turn limiter
- Delivery status B-C opened, see flow scheme

**Mode of action:**

- For interconnection of two inputs

| Rp [inch] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 10 | 10 | 49 | **169 543 421** | 0.124 |
| ½ | 15 | 10 | 77 | **169 543 422** | 0.127 |
| ¾ | 20 | 10 | 146 | **169 543 423** | 0.194 |
| 1 | 25 | 10 | 260 | **169 543 424** | 0.284 |
| 1 ¼ | 32 | 10 | 437 | **169 543 425** | 0.475 |
| 1 ½ | 40 | 10 | 667 | **169 543 426** | 0.676 |
| 2 | 50 | 10 | 1293 | **169 543 427** | 1.234 |

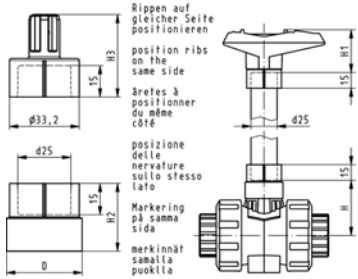
| Rp [inch] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | H [mm] | H1 [mm] | z [mm] |
|---|---|---|---|---|---|---|---|---|---|
| ⅜ | 50 | 96 | 77 | 56 | 32 | 45 | 57 | 62 | 69 |
| ½ | 50 | 99 | 77 | 56 | 32 | 45 | 57 | 62 | 67 |
| ¾ | 58 | 115 | 97 | 66 | 39 | 58 | 67 | 72 | 78 |
| 1 | 68 | 127 | 97 | 71 | 39 | 58 | 73 | 77 | 85 |
| 1 ¼ | 84 | 144 | 128 | 85 | 54 | 74 | 90 | 87 | 100 |
| 1 ½ | 97 | 153 | 128 | 89 | 54 | 74 | 97 | 97 | 106 |
| 2 | 124 | 177 | 152 | 101 | 66 | 87 | 116 | 112 | 121 |

## Handle extension 546 and 543 PVC-U metric

**Model:**

- For ball valve type 546 and 543
- Composed of adapter sockets for handle connection and stem connection
- PVC-U pipe in suitable length has to be obtained on site

| d-d [mm] | DN-DN [mm] | Code | kg | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | D [mm] |
|---|---|---|---|---|---|---|---|---|
| 16 - 20 | 10 - 15 | **161 486 435** | 0.032 | 41 | 52 | 29 | 36 | 26 |
| 25 - 32 | 20 - 25 | **161 486 436** | 0.037 | 50 | 62 | 32 | 39 | 36 |
| 40 - 50 | 32 - 40 | **161 486 437** | 0.047 | 65 | 76 | 34 | 44 | 40 |
| - 63 | - 50 | **161 486 438** | 0.058 | 84 | 87 | 37 | 48 | 44 |

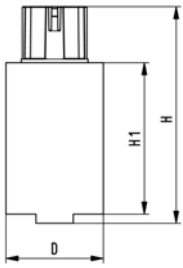


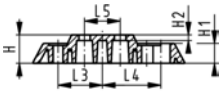

## Handle extension for ball valve type 546 PVC-U DN65 - DN100

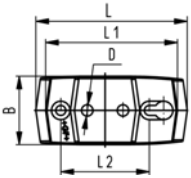
**Model:**

- Multiple use in succession possible
- Height variable

| d-d [mm] | DN-DN [mm] | Code | kg | D [mm] | H [mm] | H1 [mm] |
|---|---|---|---|---|---|---|
| 75 - 90 | 65 - 80 | **161 490 920** | 0.345 | 58 | 143 | 100 |
| - 110 | - 100 | **161 490 921** | 0.418 | 64 | 143 | 100 |





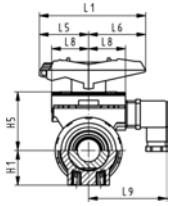




## Mounting plate 546 and 543 PP-GF (L02)

- 2 mounting screws inclusive

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 32 | ⅜ - 1 | 10 - 25 | **167 484 110** | 0.055 |
| 40 - 63 | 1 ¼ - 2 | 32 - 50 | **167 484 111** | 0.086 |

| d-d [mm] | B [mm] | D [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 - 32 | 48 | 8 | 20 | 14 | 4 | 106 | 92 | 62 | 31 | 41 | 25 |
| 40 - 63 | 54 | 9 | 20 | 14 | 4 | 149 | 134 | 104 | 52 | 62 | 45 |


## Multifunctional module (I03) PP-GF
## With mechanical limit switches Ag Ni

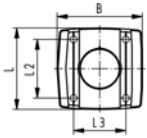
**Model:**

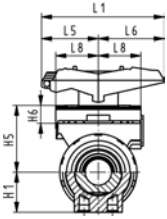
- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including Plug 3P+E / Protection: IP65
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 626** | 0.110 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 627** | 0.120 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 628** | 0.135 |
| - 63 | 2 | - 50 | **167 482 629** | 0.175 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 630** | 0.460 |
| - 110 | 4 | - 100 | **167 482 631** | 0.480 |

| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| 16 - 20 | 27 | 50 | 87 | 42 | 45 | 34 | 73 |
| 25 - 32 | 30 | 53 | 108 | 50 | 58 | 38 | 77 |
| 40 - 50 | 44 | 72 | 140 | 66 | 75 | 41 | 80 |
| - 63 | 64 | 94 | 165 | 78 | 87 | 46 | 85 |
| 75 - 90 | 85 | 157 | 270 | 64 | 206 | | |
| - 110 | 123 | 175 | 320 | 64 | 256 | | |

DN10/15 - 50




## Multifunctional module (I02) PP-GF
## Module empty

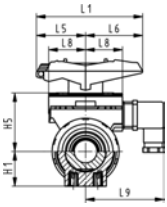
**Model:**

- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100
- The multifunctional module from d75 - d110 has a master gauge F07 according to EN ISO 5211.

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 680** | 0.055 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 681** | 0.070 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 682** | 0.080 |
| - 63 | 2 | - 50 | **167 482 683** | 0.120 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 684** | 0.135 |
| - 110 | 4 | - 100 | **167 482 685** | 0.175 |

| d-d [mm] | B [mm] | H1 [mm] | H5 [mm] | H6 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L5 [mm] | L6 [mm] | L8 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 - 20 | 67 | 27 | 50 | 17 | 72 | 87 | 54 | 40 | 42 | 45 | 34 |
| 25 - 32 | 75 | 30 | 53 | 16 | 72 | 108 | 52 | 46 | 50 | 58 | 38 |
| 40 - 50 | 81 | 44 | 72 | 16 | 80 | 140 | 60 | 50 | 66 | 75 | 41 |
| - 63 | 91 | 64 | 94 | 19 | 93 | 165 | 68 | 65 | 78 | 87 | 46 |
| 75 - 90 | 90 | 85 | 157 | 23 | 85 | 270 | | | 64 | 206 | |
| - 110 | 106 | 123 | 175 | 23 | 97 | 320 | | | 64 | 256 | |

DN10/15 - 50




## Multifunctional module (I04) PP-GF
## With mechanical limit switches Au

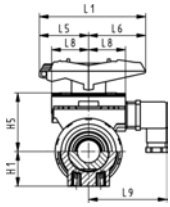
**Model:**

- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including Plug 3P+E / Protection: IP65
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 635** | 0.110 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 636** | 0.120 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 637** | 0.135 |
| - 63 | 2 | - 50 | **167 482 638** | 0.175 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 639** | 0.460 |
| - 110 | 4 | - 100 | **167 482 640** | 0.480 |

| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| 16 - 20 | 27 | 50 | 87 | 42 | 45 | 34 | 73 |
| 25 - 32 | 30 | 53 | 108 | 50 | 58 | 38 | 77 |
| 40 - 50 | 44 | 72 | 140 | 66 | 75 | 41 | 80 |

table continued next page

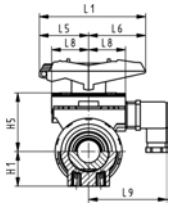



| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| - 63 | 64 | 94 | 165 | 78 | 87 | 46 | 85 |
| 75 - 90 | 85 | 157 | 270 | 64 | 206 | | |
| - 110 | 123 | 175 | 320 | 64 | 256 | | |


## Multifunctional module (I05) PP-GF
## With inductive limit switches Namur

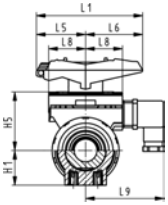
**Model:**

- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including Plug 3P+E / Protection: IP65
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100




| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 671** | 0.110 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 672** | 0.120 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 673** | 0.135 |
| - 63 | 2 | - 50 | **167 482 674** | 0.175 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 675** | 0.460 |
| - 110 | 4 | - 100 | **167 482 676** | 0.480 |

| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| 16 - 20 | 27 | 50 | 87 | 42 | 45 | 34 | 73 |
| 25 - 32 | 30 | 53 | 108 | 50 | 58 | 38 | 77 |
| 40 - 50 | 44 | 72 | 140 | 66 | 75 | 41 | 80 |
| - 63 | 64 | 94 | 165 | 78 | 87 | 46 | 85 |
| 75 - 90 | 85 | 157 | 270 | 64 | 206 | | |
| - 110 | 123 | 175 | 320 | 64 | 256 | | |

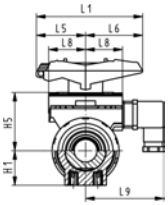

## Multifunctional module (I06) PP-GF With inductive limit switches PNP

**Model:**

- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including Plug 3P+E / Protection: IP65
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 662** | 0.110 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 663** | 0.120 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 664** | 0.135 |
| - 63 | 2 | - 50 | **167 482 665** | 0.175 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 666** | 0.460 |
| - 110 | 4 | - 100 | **167 482 667** | 0.480 |

| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| 16 - 20 | 27 | 50 | 87 | 42 | 45 | 34 | 73 |
| 25 - 32 | 30 | 53 | 108 | 50 | 58 | 38 | 77 |
| 40 - 50 | 44 | 72 | 140 | 66 | 75 | 41 | 80 |
| - 63 | 64 | 94 | 165 | 78 | 87 | 46 | 85 |
| 75 - 90 | 85 | 157 | 270 | 64 | 206 | | |
| - 110 | 123 | 175 | 320 | 64 | 256 | | |


## Multifunctional module (I07) PP-GF With inductive limit switches NPN

**Model:**

- Accessory to Ball Valve Type 546
- Multifunctional module acts as an intermediate element for actuators
- For operation with handle, multifunctional handle has to be ordered separately.
- Including Plug 3P+E / Protection: IP65
- Including screws to mount the module and stainless steel coupling piece (V2A) for dimension DN65-100

| d-d [mm] | Inch [inch] | DN-DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 482 653** | 0.110 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 482 654** | 0.120 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 482 655** | 0.135 |
| - 63 | 2 | - 50 | **167 482 656** | 0.175 |
| 75 - 90 | 2 ½ - 3 | 65 - 80 | **167 482 657** | 0.460 |
| - 110 | 4 | - 100 | **167 482 658** | 0.480 |

| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| 16 - 20 | 27 | 50 | 87 | 42 | 45 | 34 | 73 |
| 25 - 32 | 30 | 53 | 108 | 50 | 58 | 38 | 77 |
| 40 - 50 | 44 | 72 | 140 | 66 | 75 | 41 | 80 |

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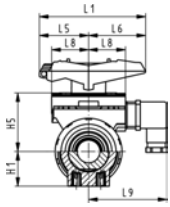
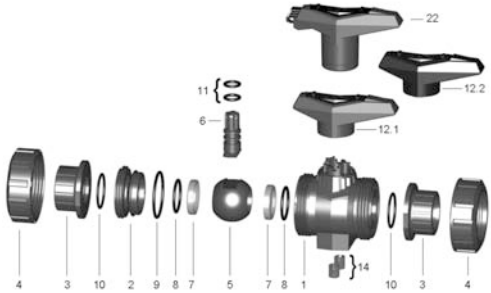



| d-d [mm] | H1 [mm] | H5 [mm] | L1 [mm] | L5 [mm] | L6 [mm] | L8 [mm] | L9 [mm] |
|---|---|---|---|---|---|---|---|
| - 63 | 64 | 94 | 165 | 78 | 87 | 46 | 85 |
| 75 - 90 | 85 | 157 | 270 | 64 | 206 | | |
| - 110 | 123 | 175 | 320 | 64 | 256 | | |

# Spare parts ball valves

## Spare parts ball valve type 546




### Central part

**Model:**

- Every connecting pieces and union nuts are listed on product range industry valves
- Ball seals standard in PTFE
- Central part consisting of: body (1), union bush (2), ball (5), stem (6), ball-, backing-, body-, face- and stem seal (7-11), standard lever (12) and threaded inserts stainless steel (14)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 480 751** | 0.075 |
| 20 | ½ | 15 | **169 480 751** | 0.075 |
| 25 | ¾ | 20 | **169 480 752** | 0.120 |
| 32 | 1 | 25 | **169 480 753** | 0.175 |
| 40 | 1 ¼ | 32 | **169 480 754** | 0.310 |
| 50 | 1 ½ | 40 | **169 480 755** | 0.405 |
| 63 | 2 | 50 | **169 480 756** | 0.700 |
| 75 | 2 ½ | 65 | **169 480 757** | 2.660 |
| 90 | 3 | 80 | **169 480 758** | 3.780 |
| 110 | 4 | 100 | **169 480 759** | 5.990 |

### Ball set

**Model:**

- Ball seals standard in PTFE
- Ball set consisting of: ball (5), stem (6), ball-, backing-, body- and stem seal (7-9,11)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 480 900** | 0.013 |
| 20 | ½ | 15 | **169 480 900** | 0.013 |
| 25 | ¾ | 20 | **169 480 901** | 0.020 |
| 32 | 1 | 25 | **169 480 902** | 0.035 |
| 40 | 1 ¼ | 32 | **169 480 903** | 0.065 |
| 50 | 1 ½ | 40 | **169 480 904** | 0.100 |
| 63 | 2 | 50 | **169 480 905** | 0.195 |

table continued next page

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 75 | 2 ½ | 65 | **169 480 906** | 0.388 |
| 90 | 3 | 80 | **169 480 907** | 0.610 |
| 110 | 4 | 100 | **169 480 908** | 1.014 |


## Lever


| d [mm] | Inch | DN [mm] | Standard lever red Code | Standard lever black Code | Multifunctional lever Code | kg |
|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 484 088** | **167 484 076** | **167 484 100** | 0.026 |
| 20 | ½ | 15 | **167 484 088** | **167 484 076** | **167 484 100** | 0.026 |
| 25 | ¾ | 20 | **167 484 089** | **167 484 077** | **167 484 101** | 0.045 |
| 32 | 1 | 25 | **167 484 090** | **167 484 078** | **167 484 102** | 0.045 |
| 40 | 1 ¼ | 32 | **167 484 091** | **167 484 079** | **167 484 103** | 0.082 |
| 50 | 1 ½ | 40 | **167 484 092** | **167 484 080** | **167 484 104** | 0.082 |
| 63 | 2 | 50 | **167 484 093** | **167 484 081** | **167 484 105** | 0.104 |
| 75 | 2 ½ | 65 | **167 484 094** | **167 484 082** | **161 486 689** | 0.480 |
| 90 | 3 | 80 | **167 484 095** | **167 484 083** | **161 486 690** | 0.480 |
| 110 | 4 | 100 | **167 484 096** | **167 484 084** | **161 486 691** | 0.480 |

## Face seal

**Model:**

- Face seal no. 10

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **748 410 059** | 0.004 |
| 20 | ½ | 15 | **748 410 059** | 0.004 |
| 25 | ¾ | 20 | **748 410 106** | 0.002 |
| 32 | 1 | 25 | **748 410 151** | 0.002 |
| 40 | 1 ¼ | 32 | **748 410 062** | 0.002 |
| 50 | 1 ½ | 40 | **748 410 003** | 0.004 |
| 63 | 2 | 50 | **748 410 231** | 0.010 |
| 75 | 2 ½ | 65 | **748 410 119** | 0.006 |
| 90 | 3 | 80 | **748 410 023** | 0.010 |
| 110 | 4 | 100 | **748 410 254** | 0.020 |

## Seal set

**Model:**

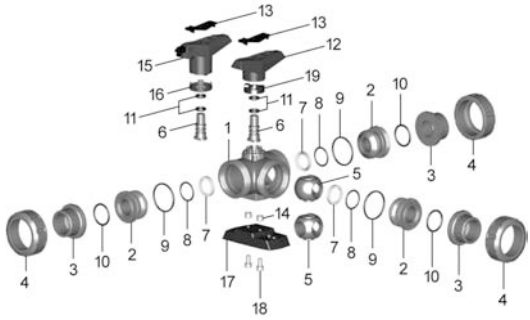
- Seal set consisting of: backing-, body-, face- and stem seal (8-11)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 486 400** | 0.002 |
| 20 | ½ | 15 | **161 486 400** | 0.002 |
| 25 | ¾ | 20 | **161 486 401** | 0.002 |
| 32 | 1 | 25 | **161 486 402** | 0.003 |
| 40 | 1 ¼ | 32 | **161 486 403** | 0.005 |
| 50 | 1 ½ | 40 | **161 486 404** | 0.012 |
| 63 | 2 | 50 | **161 486 405** | 0.016 |

table continued next page

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 486 406** | 0.018 |
| 90 | 3 | 80 | **161 486 407** | 0.024 |
| 110 | 4 | 100 | **161 486 408** | 0.039 |

## Spare parts ball valve type 543 horizontal




## Central part L-port

**Model:**

- Every connecting pieces and union nuts are listed on product range industry valves
- Ball seals standard in PTFE
- Central part consisting of: body (1), union bush (2), ball (5), stem (6), ball-, backing-, body-, face- and stem seal (7-11), standard lever (12) and threaded inserts stainless steel (14)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 202** | 0.120 |
| 20 | ½ | 15 | **169 481 202** | 0.120 |
| 25 | ¾ | 20 | **169 481 203** | 0.177 |
| 32 | 1 | 25 | **169 481 204** | 0.267 |
| 40 | 1 ¼ | 32 | **169 481 205** | 0.471 |
| 50 | 1 ½ | 40 | **169 481 206** | 0.699 |
| 63 | 2 | 50 | **169 481 207** | 1.340 |

## Central part T-port

**Model:**

- Ball seals standard in PTFE
- Central part consisting of: body (1), union bush (2), ball (5), stem (6), ball-, backing-, body-, face- and stem seal (7-11), standard lever (12) and threaded inserts stainless steel (14)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 212** | 0.120 |
| 20 | ½ | 15 | **169 481 212** | 0.120 |
| 25 | ¾ | 20 | **169 481 213** | 0.175 |
| 32 | 1 | 25 | **169 481 214** | 0.262 |
| 40 | 1 ¼ | 32 | **169 481 215** | 0.462 |
| 50 | 1 ½ | 40 | **169 481 216** | 0.683 |
| 63 | 2 | 50 | **169 481 217** | 1.306 |

## Ball set L-port

**Model:**

- Ball seals standard in PTFE
- Ball set consisting of: lever (12), ball (5), stem (6), ball-, backing-, body- and stem seal (7-9,11)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 282** | 0.026 |
| 20 | ½ | 15 | **169 481 282** | 0.026 |
| 25 | ¾ | 20 | **169 481 283** | 0.049 |
| 32 | 1 | 25 | **169 481 284** | 0.066 |
| 40 | 1 ¼ | 32 | **169 481 285** | 0.114 |
| 50 | 1 ½ | 40 | **169 481 286** | 0.170 |
| 63 | 2 | 50 | **169 481 287** | 0.282 |

## Ball set T-port

**Model:**

- Ball seals standard in PTFE
- Ball set consisting of: lever (12), ball (5), stem (6), ball-, backing-, body- and stem seal (7-9,11)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 292** | 0.025 |
| 20 | ½ | 15 | **169 481 292** | 0.025 |
| 25 | ¾ | 20 | **169 481 293** | 0.048 |
| 32 | 1 | 25 | **169 481 294** | 0.060 |
| 40 | 1 ¼ | 32 | **169 481 295** | 0.105 |
| 50 | 1 ½ | 40 | **169 481 296** | 0.154 |
| 63 | 2 | 50 | **169 481 297** | 0.247 |

## Lever

| d [mm] | Inch | DN [mm] | Standard lever L-port red Code | Standard lever L-port black Code | Standard lever T-port red Code | |
|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 484 488** | **167 484 376** | **167 484 588** | |
| 20 | ½ | 15 | **167 484 488** | **167 484 376** | **167 484 588** | |
| 25 | ¾ | 20 | **167 484 489** | **167 484 377** | **167 484 589** | |
| 32 | 1 | 25 | **167 484 490** | **167 484 378** | **167 484 590** | |
| 40 | 1 ¼ | 32 | **167 484 491** | **167 484 379** | **167 484 591** | |
| 50 | 1 ½ | 40 | **167 484 492** | **167 484 380** | **167 484 592** | |
| 63 | 2 | 50 | **167 484 493** | **167 484 381** | **167 484 593** | |

| d [mm] | Inch | DN [mm] | Standard lever T-port black Code | Multifunctional-lever L-port red Code | Multifunctional-lever T-port red Code | kg |
|---|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 484 576** | **167 484 442** | **167 484 542** | 0.026 |
| 20 | ½ | 15 | **167 484 576** | **167 484 442** | **167 484 542** | 0.026 |
| 25 | ¾ | 20 | **167 484 577** | **167 484 443** | **167 484 543** | 0.045 |
| 32 | 1 | 25 | **167 484 578** | **167 484 444** | **167 484 544** | 0.045 |
| 40 | 1 ¼ | 32 | **167 484 579** | **167 484 445** | **167 484 545** | 0.082 |
| 50 | 1 ½ | 40 | **167 484 580** | **167 484 446** | **167 484 546** | 0.082 |
| 63 | 2 | 50 | **167 484 581** | **167 484 447** | **167 484 547** | 0.104 |

## Face seal

**Model:**

- Face seal no. 10

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **748 410 059** | 0.004 |
| 20 | ½ | 15 | **748 410 059** | 0.004 |
| 25 | ¾ | 20 | **748 410 106** | 0.002 |
| 32 | 1 | 25 | **748 410 151** | 0.002 |
| 40 | 1 ¼ | 32 | **748 410 062** | 0.002 |
| 50 | 1 ½ | 40 | **748 410 003** | 0.004 |
| 63 | 2 | 50 | **748 410 231** | 0.010 |

## Seal set

**Model:**

- Seal set consisting of: backing-, body-, face- and stem seal (8-11)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 488 242** | 0.011 |
| 20 | ½ | 15 | **161 488 242** | 0.011 |
| 25 | ¾ | 20 | **161 488 243** | 0.011 |
| 32 | 1 | 25 | **161 488 244** | 0.014 |
| 40 | 1 ¼ | 32 | **161 488 245** | 0.014 |
| 50 | 1 ½ | 40 | **161 488 246** | 0.026 |
| 63 | 2 | 50 | **161 488 247** | 0.032 |

## Turn limiter 90°

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 482 479** | 0.001 |
| 20 | ½ | 15 | **167 482 479** | 0.001 |
| 25 | ¾ | 20 | **167 482 480** | 0.002 |
| 32 | 1 | 25 | **167 482 480** | 0.002 |
| 40 | 1 ¼ | 32 | **167 482 481** | 0.004 |
| 50 | 1 ½ | 40 | **167 482 481** | 0.004 |
| 63 | 2 | 50 | **167 482 482** | 0.004 |

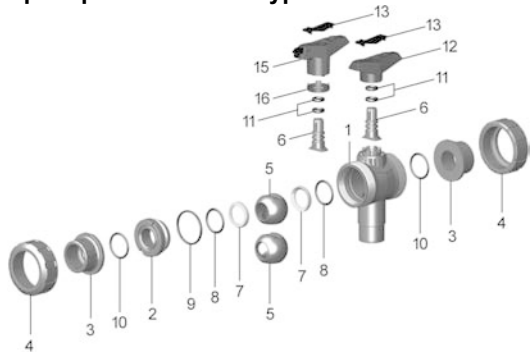
## Assembly kit

**Model:**

- Intermediate element for ball valve type 543 horizontal and electric or pneumatic actuators EA21; PA11/21
- Including screws and position indicator for actuators

| d [mm] | Inch [inch] | DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 484 941** | 0.156 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 484 942** | 0.181 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 484 943** | 0.197 |
| 63 | 2 | 50 | **167 484 944** | 0.236 |

## Spare parts ball valve type 543 vertical




## Central part L-port

**Model:**

- Every connecting pieces and union nuts are listed on product range industry valves
- Ball seals standard in PTFE
- Central part consisting of: body (1), union bush (2), ball (5), stem (6), ball-, backing-, body-, face- and stem seal (7-11) and standard lever (12)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 221** | 0.079 |
| 20 | ⅜ | 15 | **169 481 222** | 0.079 |
| 25 | ¾ | 20 | **169 481 223** | 0.129 |
| 32 | 1 | 25 | **169 481 224** | 0.181 |
| 40 | 1 ¼ | 32 | **169 481 225** | 0.311 |
| 50 | 1 ½ | 40 | **169 481 226** | 0.435 |
| 63 | 2 | 50 | **169 481 227** | 0.751 |

## Central part diverter ball

**Model:**

- Ball seals standard in PTFE
- Central part consisting of: body (1), union bush (2), ball (5), stem (6), ball-, backing-, body-, face- and stem seal (7-11) and standard lever (12)

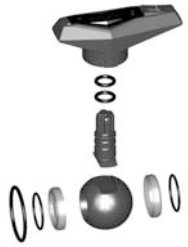
| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 231** | 0.079 |
| 20 | ½ | 15 | **169 481 232** | 0.079 |
| 25 | ¾ | 20 | **169 481 233** | 0.127 |
| 32 | 1 | 25 | **169 481 234** | 0.176 |
| 40 | 1 ¼ | 32 | **169 481 235** | 0.303 |
| 50 | 1 ½ | 40 | **169 481 236** | 0.419 |
| 63 | 2 | 50 | **169 481 237** | 0.717 |

## Ball set L-port

**Model:**

- Ball seals standard in PTFE
- Ball set consisting of: lever (12), ball (5), stem (6), ball-, backing-, body- and stem seal (7-9,11)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 302** | 0.026 |
| 20 | ½ | 15 | **169 481 302** | 0.026 |
| 25 | ¾ | 20 | **169 481 303** | 0.049 |
| 32 | 1 | 25 | **169 481 304** | 0.063 |
| 40 | 1 ¼ | 32 | **169 481 305** | 0.111 |
| 50 | 1 ½ | 40 | **169 481 306** | 0.155 |
| 63 | 2 | 50 | **169 481 307** | 0.298 |



## Ball set diverter ball

**Model:**

- Ball seals standard in PTFE
- Ball set consisting of: lever (12), ball (5), stem (6), ball-, backing-, body- and stem seal (7-9,11)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 481 312** | 0.020 |
| 20 | ½ | 15 | **169 481 312** | 0.020 |
| 25 | ¾ | 20 | **169 481 313** | 0.037 |
| 32 | 1 | 25 | **169 481 314** | 0.041 |
| 40 | 1 ¼ | 32 | **169 481 315** | 0.070 |
| 50 | 1 ½ | 40 | **169 481 316** | 0.083 |
| 63 | 2 | 50 | **169 481 317** | 0.122 |

## Lever

| d [mm] | Inch | DN [mm] | Standard lever L-port red Code | Standard lever diverter ball red Code | Multifunctional-lever L-port red Code |
|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 484 688** | **167 484 788** | **167 484 642** |
| 20 | ½ | 15 | **167 484 688** | **167 484 788** | **167 484 642** |
| 25 | ¾ | 20 | **167 484 689** | **167 484 789** | **167 484 643** |
| 32 | 1 | 25 | **167 484 690** | **167 484 790** | **167 484 644** |
| 40 | 1 ¼ | 32 | **167 484 691** | **167 484 791** | **167 484 645** |
| 50 | 1 ½ | 40 | **167 484 692** | **167 484 792** | **167 484 646** |
| 63 | 2 | 50 | **167 484 693** | **167 484 793** | **167 484 647** |

| d [mm] | Inch | DN [mm] | Multifunctional-lever diverter ball red Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **167 484 742** | 0.026 |
| 20 | ½ | 15 | **167 484 742** | 0.026 |
| 25 | ¾ | 20 | **167 484 743** | 0.045 |
| 32 | 1 | 25 | **167 484 744** | 0.045 |
| 40 | 1 ¼ | 32 | **167 484 745** | 0.082 |
| 50 | 1 ½ | 40 | **167 484 746** | 0.082 |
| 63 | 2 | 50 | **167 484 747** | 0.104 |

## Face seal

**Model:**

- Face seal no. 10

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **748 410 059** | 0.004 |
| 20 | ½ | 15 | **748 410 059** | 0.004 |
| 25 | ¾ | 20 | **748 410 106** | 0.002 |
| 32 | 1 | 25 | **748 410 151** | 0.002 |
| 40 | 1 ¼ | 32 | **748 410 062** | 0.002 |
| 50 | 1 ½ | 40 | **748 410 003** | 0.004 |
| 63 | 2 | 50 | **748 410 231** | 0.010 |

## Seal set

**Model:**

- Seal set consisting of: backing-, body-, face- and stem seal (8-11)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 486 400** | 0.002 |
| 20 | ½ | 15 | **161 486 400** | 0.002 |
| 25 | ¾ | 20 | **161 486 401** | 0.002 |
| 32 | 1 | 25 | **161 486 402** | 0.003 |
| 40 | 1 ¼ | 32 | **161 486 403** | 0.005 |
| 50 | 1 ½ | 40 | **161 486 404** | 0.012 |
| 63 | 2 | 50 | **161 486 405** | 0.016 |

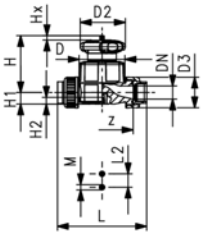
## Assembly kit

**Model:**

- Intermediate element for ball valve type 543 vertical and electric or pneumatic actuators EA21; PA11/21
- Including screws and position indicator for actuators

| d [mm] | Inch [inch] | DN [mm] | Code | kg |
|---|---|---|---|---|
| 16 - 20 | ⅜ - ½ | 10 - 15 | **167 484 945** | 0.156 |
| 25 - 32 | ¾ - 1 | 20 - 25 | **167 484 946** | 0.181 |
| 40 - 50 | 1 ¼ - 1 ½ | 32 - 40 | **167 484 947** | 0.197 |
| 63 | 2 | 50 | **167 484 948** | 0.236 |

# Diaphragm valves




## Diaphragm valve type 514 ABS
## With solvent cement sockets BS

**Model:**

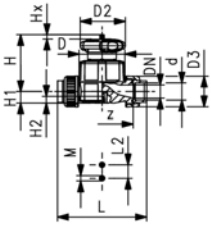
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches

| Inch | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | PTFE/EPDM Code | kg |
|---|---|---|---|---|---|---|
| ½ | 15 | 10 | 125 | **169 514 512** | **169 514 532** | 0.364 |
| ¾ | 20 | 10 | 271 | **169 514 513** | **169 514 533** | 0.476 |
| 1 | 25 | 10 | 481 | **169 514 514** | **169 514 534** | 1.079 |
| 1 ¼ | 32 | 10 | 759 | **169 514 515** | **169 514 535** | 1.317 |
| 1 ½ | 40 | 10 | 1263 | **169 514 516** | **169 514 536** | 2.350 |
| 2 | 50 | 10 | 1728 | **169 514 517** | **169 514 537** | 3.063 |

| Inch | D [mm] | D2 [mm] | D3 [mm] | L [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | Lift = Hx [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ½ | 65 | 65 | 43 | 128 | 25 | 73 | 14 | 12 | M6 | 96 | 7 |
| ¾ | 80 | 65 | 51 | 152 | 25 | 81 | 18 | 12 | M6 | 114 | 10 |
| 1 | 88 | 87 | 58 | 166 | 25 | 107 | 22 | 12 | M6 | 122 | 13 |
| 1 ¼ | 101 | 87 | 72 | 192 | 45 | 115 | 26 | 15 | M8 | 140 | 15 |
| 1 ½ | 117 | 135 | 83 | 222 | 45 | 148 | 32 | 15 | M8 | 160 | 19 |
| 2 | 144 | 135 | 100 | 266 | 45 | 166 | 39 | 15 | M8 | 190 | 25 |




## Diaphragm valve type 514 ABS
## With solvent cement sockets metric

**Model:**

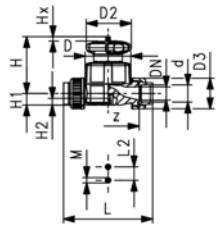
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | PTFE/EPDM Code | kg |
|---|---|---|---|---|---|---|
| 20 | 15 | 10 | 125 | **169 514 012** | **169 514 032** | 0.364 |
| 25 | 20 | 10 | 271 | **169 514 013** | **169 514 033** | 0.478 |
| 32 | 25 | 10 | 481 | **169 514 014** | **169 514 034** | 1.081 |
| 40 | 32 | 10 | 759 | **169 514 015** | **169 514 035** | 1.357 |
| 50 | 40 | 10 | 1263 | **169 514 016** | **169 514 036** | 2.374 |
| 63 | 50 | 10 | 1728 | **169 514 017** | **169 514 037** | 3.111 |

table continued next page

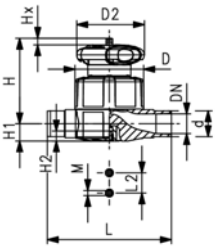



| d [mm] | D [mm] | D2 [mm] | D3 [mm] | L [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | z [mm] | Lift = Hx [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 65 | 65 | 43 | 128 | 25 | 73 | 14 | 12 | M6 | 96 | 7 |
| 25 | 80 | 65 | 51 | 152 | 25 | 81 | 18 | 12 | M6 | 114 | 10 |
| 32 | 88 | 87 | 58 | 166 | 25 | 107 | 22 | 12 | M6 | 122 | 13 |
| 40 | 101 | 87 | 72 | 192 | 45 | 115 | 26 | 15 | M8 | 140 | 15 |
| 50 | 117 | 135 | 83 | 222 | 45 | 148 | 32 | 15 | M8 | 160 | 19 |
| 63 | 144 | 135 | 100 | 266 | 45 | 166 | 39 | 15 | M8 | 190 | 25 |

## Diaphragm valve type 515 ABS
## With solvent cement spigots metric

**Model:**

- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- Overall length EN 558

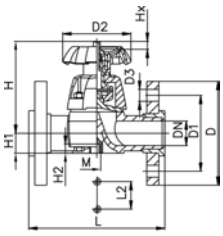



**Option:**

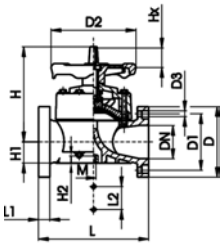
- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | PTFE/EPDM Code | kg |
|---|---|---|---|---|---|---|
| 20 | 15 | 10 | 125 | **169 515 012** | **169 515 032** | 0.318 |
| 25 | 20 | 10 | 271 | **169 515 013** | **169 515 033** | 0.412 |
| 32 | 25 | 10 | 481 | **169 515 014** | **169 515 034** | 0.992 |
| 40 | 32 | 10 | 759 | **169 515 015** | **169 515 035** | 1.164 |
| 50 | 40 | 10 | 1263 | **169 515 016** | **169 515 036** | 2.141 |
| 63 | 50 | 10 | 1728 | **169 515 017** | **169 515 037** | 2.726 |

| d [mm] | D [mm] | D2 [mm] | L [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | Lift = Hx [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 65 | 65 | 124 | 25 | 73 | 14 | 12 | M6 | 7 |
| 25 | 80 | 65 | 144 | 25 | 81 | 18 | 12 | M6 | 10 |
| 32 | 88 | 87 | 154 | 25 | 107 | 22 | 12 | M6 | 13 |
| 40 | 101 | 87 | 174 | 45 | 115 | 26 | 15 | M8 | 15 |
| 50 | 117 | 135 | 194 | 45 | 148 | 32 | 15 | M8 | 19 |
| 63 | 144 | 135 | 224 | 45 | 166 | 39 | 15 | M8 | 25 |




DN 15–65




DN 80-100

## Diaphragm valve type 317 ABS
## With flanges metric

**Model:**

- Overall length according to EN 558
- Flat sealing faces
- Other dimensions available on request
- DN 80-150 with fixed flange
- Minimum temperature: - 30°C

**Option:**

- Handwheel lockable DN15-65 (basic version not lockable)

*** DN80 and DN150 fixed flanges metric and Inch ANSI B16.5**

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 75 | 65 | 10 | 992 | **169 317 423** | 5.000 |
| * 90 | 80 | 10 | 1700 | **169 317 024** | 8.350 |
| 110 | 100 | 10 | 2700 | **169 317 025** | 11.600 |

| d [mm] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | M | AL | Lift = Hx [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 185 | 145 | 152 | 18 | 290 | | 70 | 201 | 46 | 15 | M8 | 4 | 30 |
| * 90 | 200 | 160 | 270 | 18 | 310 | 35 | 120 | 265 | 57 | 23 | M12 | 8 | 40 |
| 110 | 225 | 180 | 270 | 18 | 350 | 35 | 120 | 304 | 69 | 23 | M12 | 8 | 50 |

# Spare parts diaphragm valves new generation

## Spare parts for hand-operated valves Type 514/515/517/519

### Bonnet complete

| d [mm] | Inch | DN [mm] | Standard configuration PN10 Code | For pressure tight housing PN10 Code | Standard configuration PN16 Code |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **198 151 742** | **198 151 752** | **198 151 842** |
| 25 | ¾ | 20 | **198 151 743** | **198 151 753** | **198 151 843** |
| 32 | 1 | 25 | **198 151 744** | **198 151 754** | **198 151 844** |
| 40 | 1 ¼ | 32 | **198 151 745** | **198 151 755** | **198 151 845** |
| 50 | 1 ½ | 40 | **198 151 746** | **198 151 756** | **198 151 846** |
| 63 | 2 | 50 | **198 151 747** | **198 151 757** | **198 151 847** |

| d [mm] | Inch | DN [mm] | For pressure tight housing PN16 Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **198 151 852** | 0.137 |
| 25 | ¾ | 20 | **198 151 853** | 0.177 |
| 32 | 1 | 25 | **198 151 854** | 0.366 |
| 40 | 1 ¼ | 32 | **198 151 855** | 0.390 |
| 50 | 1 ½ | 40 | **198 151 856** | 0.746 |
| 63 | 2 | 50 | **198 151 857** | 1.016 |

### Hand wheel

**Model:**

- Without position indicator

| DN [mm] | Code | kg |
|---|---|---|
| 15 - 20 | **198 204 162** | 0.035 |
| 25 - 32 | **198 204 164** | 0.068 |
| 40 - 50 | **198 104 166** | 0.190 |

## Position indicator

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **167 484 992** | 0.011 |
| 25 | ¾ | 20 | **167 484 993** | 0.011 |
| 32 | 1 | 25 | **167 484 994** | 0.013 |
| 40 | 1 ¼ | 32 | **167 484 995** | 0.012 |
| 50 | 1 ½ | 40 | **167 484 996** | 0.014 |
| 63 | 2 | 50 | **167 484 997** | 0.015 |

## Spindle assembly

**Model:**

- Incl. position indicator and compressor

| DN-DN [mm] | Code | kg |
|---|---|---|
| 15 - 20 | **198 204 327** | 0.049 |
| 25 - 32 | **198 204 328** | 0.135 |
| 40 - 50 | **198 204 329** | 0.251 |

## Seal set

**Model:**

- For manual valve - pressure tight housing
- Incl. position indicator

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **198 000 892** | 0.004 |
| 25 | ¾ | 20 | **198 000 893** | 0.004 |
| 32 | 1 | 25 | **198 000 894** | 0.007 |
| 40 | 1 ¼ | 32 | **198 000 895** | 0.006 |
| 50 | 1 ½ | 40 | **198 000 896** | 0.008 |
| 63 | 2 | 50 | **198 000 897** | 0.009 |

## Spare parts for automatic valves
## Diastar Six/Ten/Sixteen

### Actuators

| d [mm] | Inch | DN [mm] | Diastar Six Code | Diastar Ten Code | Diastar Sixteen FC Code | Diastar Ten FO Code |
|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **198 151 762** | **198 151 772** | **198 151 782** | **198 151 792** |
| 25 | ¾ | 20 | **198 151 763** | **198 151 773** | **198 151 783** | **198 151 793** |
| 32 | 1 | 25 | **198 151 764** | **198 151 774** | **198 151 784** | **198 151 794** |
| 40 | 1 ¼ | 32 | **198 151 765** | **198 151 775** | **198 151 785** | **198 151 795** |
| 50 | 1 ½ | 40 | **198 151 766** | **198 151 776** | **198 151 786** | **198 151 796** |
| 63 | 2 | 50 | **198 151 767** | **198 151 777** | **198 151 787** | **198 151 797** |

| d [mm] | Inch | DN [mm] | Diastar Ten DA Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **198 151 802** | 0.427 |
| 25 | ¾ | 20 | **198 151 803** | 0.718 |
| 32 | 1 | 25 | **198 151 804** | 0.823 |
| 40 | 1 ¼ | 32 | **198 151 805** | 1.269 |
| 50 | 1 ½ | 40 | **198 151 806** | 2.141 |
| 63 | 2 | 50 | **198 151 807** | 2.364 |

### Indicator cap

| Size | Code | kg |
|---|---|---|
| 1-2 | **198 806 639** | 0.002 |
| 3-5 | **198 806 640** | 0.004 |

## Compressor set

**Model:**

- Incl. diaphragm holder

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 20 | 1/2 | 15 | **198 000 872** | 0.032 |
| 25 | 3/4 | 20 | **198 000 873** | 0.035 |
| 32 | 1 | 25 | **198 000 874** | 0.073 |
| 40 | 1 1/4 | 32 | **198 000 875** | 0.084 |
| 50 | 1 1/2 | 40 | **198 000 876** | 0.122 |
| 63 | 2 | 50 | **198 000 877** | 0.146 |

## Seal set

**Model:**

- Spindle seal and piston seal

| Size | Diastar Six/Ten/ Sixteen Code | Only for Diastar Six DN40/DN50 Code | kg |
|---|---|---|---|
| Gr. 1 | **198 000 881** | **-** | 0.006 |
| Gr. 2 | **198 000 882** | **-** | 0.008 |
| Gr. 3 | **198 000 883** | **198 000 886** | 0.006 |
| Gr. 4 | **198 000 884** | **-** | 0.010 |
| Gr. 5 | **198 000 885** | **-** | 0.072 |

## Spare parts diaphragm
## For type 514/515/517/519

| d [mm] | Inch | DN [mm] | NBR Code | EPDM Code | FPM Code | PTFE/EPDM Code |
|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **745 500 012** | **748 500 012** | **749 500 012** | **747 502 012** |
| 25 | ¾ | 20 | **745 500 013** | **748 500 013** | **749 500 013** | **747 502 013** |
| 32 | 1 | 25 | **745 500 014** | **748 500 014** | **749 500 014** | **747 502 014** |
| 40 | 1 ¼ | 32 | **745 500 015** | **748 500 015** | **749 500 015** | **747 502 015** |
| 50 | 1 ½ | 40 | **745 500 016** | **748 500 016** | **749 500 016** | **747 502 016** |
| 63 | 2 | 50 | **745 500 017** | **748 500 017** | **749 500 017** | **747 502 017** |

| d [mm] | Inch | DN [mm] | PTFE/EPDM HP Code | PTFE/FPM Code | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **747 502 032** | **747 503 012** | 0.013 |
| 25 | ¾ | 20 | **747 502 033** | **747 503 013** | 0.021 |
| 32 | 1 | 25 | **747 502 034** | **747 503 014** | 0.031 |
| 40 | 1 ¼ | 32 | **747 502 035** | **747 503 015** | 0.045 |
| 50 | 1 ½ | 40 | **747 502 036** | **747 503 016** | 0.069 |
| 63 | 2 | 50 | **747 502 037** | **747 503 017** | 0.118 |

## Spare parts for valve body type 514
## Valve body with true union

**Model:**

- Without connection parts

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **169 481 322** | 0.086 |
| 25 | ¾ | 20 | **169 481 323** | 0.137 |
| 32 | 1 | 25 | **169 481 324** | 0.181 |
| 40 | 1 ¼ | 32 | **169 481 325** | 0.295 |
| 50 | 1 ½ | 40 | **169 481 326** | 0.435 |
| 63 | 2 | 50 | **169 481 327** | 0.782 |

### Union nut

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **729 690 406** | 0.014 |
| 25 | ¾ | 20 | **729 690 407** | 0.018 |
| 32 | 1 | 25 | **729 690 408** | 0.024 |
| 40 | 1 ¼ | 32 | **729 690 409** | 0.049 |
| 50 | 1 ½ | 40 | **729 690 410** | 0.070 |
| 63 | 2 | 50 | **729 690 411** | 0.101 |

### O-ring

| d [mm] | Inch | DN [mm] | EPDM Code | FPM Code | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **748 410 006** | **749 410 006** | 0.002 |
| 25 | ¾ | 20 | **748 410 007** | **749 410 007** | 0.002 |
| 32 | 1 | 25 | **748 410 008** | **749 410 008** | 0.002 |
| 40 | 1 ¼ | 32 | **748 410 009** | **749 410 009** | 0.006 |
| 50 | 1 ½ | 40 | **748 410 010** | **749 410 010** | 0.007 |
| 63 | 2 | 50 | **748 410 011** | **749 410 011** | 0.010 |

## Spare parts for valve body type 515
## Valve body with spigot ends

| d [mm] | Inch | DN [mm] | ABS solvent cement spigot Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **169 481 862** | 0.089 |
| 25 | ¾ | 20 | **169 481 863** | 0.140 |
| 32 | 1 | 25 | **169 481 864** | 0.187 |
| 40 | 1 ¼ | 32 | **169 481 865** | 0.287 |
| 50 | 1 ½ | 40 | **169 481 866** | 0.455 |
| 63 | 2 | 50 | **169 481 867** | 0.793 |

## Spare parts for valve body type 517
## Flange adaptor flat

| d [mm] | Inch | DN [mm] | ABS metric Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **729 790 106** | 0.008 |
| 25 | ¾ | 20 | **729 790 107** | 0.012 |
| 32 | 1 | 25 | **729 790 108** | 0.020 |
| 40 | 1 ¼ | 32 | **729 790 109** | 0.058 |
| 50 | 1 ½ | 40 | **729 790 110** | 0.058 |
| 63 | 2 | 50 | **729 790 111** | 0.074 |

## Flange

| d [mm] | Inch | DN [mm] | PVC-U metric Code | LVI | PVC-U ASTM Code | LVI |
|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **721 700 006** | | **721 702 206** | |
| 25 | ¾ | 20 | **721 700 007** | | **721 702 207** | |
| 32 | 1 | 25 | **721 700 008** | | **721 702 208** | |
| 40 | 1 ¼ | 32 | **721 700 009** | | **721 702 209** | |
| 50 | 1 ½ | 40 | **721 700 010** | | **721 702 210** | |
| 63 | 2 | 50 | **721 700 011** | | **721 702 211** | |

table continued next page

| d [mm] | Inch | DN [mm] | PP-V metric Code | LVI | PP-V ASTM Code | LVI | PP-ST metric Code | LVI |
|---|---|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **727 700 406** | **183 38 09** | **727 701 406** | | **727 700 206** | |
| 25 | ¾ | 20 | **727 700 407** | **183 38 10** | **727 701 407** | | **727 700 207** | |
| 32 | 1 | 25 | **727 700 408** | **183 38 11** | **727 701 408** | | **727 700 208** | |
| 40 | 1 ¼ | 32 | **727 700 409** | **183 38 12** | **727 701 409** | | **727 700 209** | |
| 50 | 1 ½ | 40 | **727 700 410** | **183 38 13** | **727 701 410** | | **727 700 210** | |
| 63 | 2 | 50 | **727 700 411** | **183 38 14** | **727 701 411** | | **727 700 211** | |

| d [mm] | Inch | DN [mm] | PP-ST ASTM Code | LVI | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **727 701 206** | | 0.210 |
| 25 | ¾ | 20 | **727 701 207** | | 0.250 |
| 32 | 1 | 25 | **727 701 208** | | 0.420 |
| 40 | 1 ¼ | 32 | **727 701 209** | | 0.670 |
| 50 | 1 ½ | 40 | **727 701 210** | | 0.860 |
| 63 | 2 | 50 | **727 701 211** | | 0.930 |

## Flat gasket

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **748 400 006** | 0.003 |
| 25 | ¾ | 20 | **748 400 007** | 0.004 |
| 32 | 1 | 25 | **748 400 008** | 0.002 |
| 40 | 1 ¼ | 32 | **748 400 009** | 0.003 |
| 50 | 1 ½ | 40 | **748 400 010** | 0.004 |
| 63 | 2 | 50 | **748 400 011** | 0.006 |

# Spare parts diaphragm valves

## Spare parts diaphragm valve type 317


### Bonnet complete

**Model:**

- Without diaphragm (1, 3)

| d [mm] | Inch | DN [mm] | elastomer diaphragm Code | PTFE diaphragm Code | kg |
|---|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 484 631** | **161 484 638** | 1.526 |
| 90 | 3 | 80 | **161 482 514** | **161 482 516** | 3.967 |
| 110 | 4 | 100 | **161 482 515** | **161 482 517** | 5.700 |

### Diaphragm (2)

| d [mm] | Inch | DN [mm] | NBR Code | EPDM Code | FPM Code | PTFE/EPDM Code |
|---|---|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 480 231** | **161 481 028** | **161 481 098** | **161 480 240** |
| 90 | 3 | 80 | **161 480 232** | **161 481 029** | **161 481 099** | **161 480 241** |
| 110 | 4 | 100 | **161 480 233** | **161 481 030** | **161 481 100** | **161 480 242** |

| d [mm] | Inch | DN [mm] | PTFE/FPM Code | PTFE/EPDM HP Code | CSM Code | kg |
|---|---|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 481 932** | **161 484 458** | **161 480 237** | 0.230 |
| 90 | 3 | 80 | **-** | **161 484 459** | **161 480 238** | 0.300 |
| 110 | 4 | 100 | **-** | **161 484 460** | **161 480 239** | 0.450 |

### Pressure spindel (3)

| d [mm] | Inch | DN [mm] | elastomer diaphragm Code | PTFE diaphragm Code | kg |
|---|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 484 694** | **161 484 702** | 0.134 |
| 90 | 3 | 80 | **161 483 008** | **161 483 020** | 0.335 |
| 110 | 4 | 100 | **161 483 009** | **161 483 021** | 0.495 |

## Fastening set (4)

**Model:**

- * with support plate

| d [mm] | Inch | DN [mm] | for PVC-U PVC-C ABS Code | kg |
|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 483 032** | 0.679 |
| 90 | 3 | 80 | **161 483 033** | 0.845 |
| 110 | 4 | 100 | **161 483 034** | 1.440 |

## Valve body with backing/fixed flange (5)

| Inch | d [mm] | DN [mm] | ABS ANSI Code | kg |
|---|---|---|---|---|
| 3 | 90 | 80 | **169 480 282** | 3.210 |
| 4 | 110 | 100 | **169 480 283** | 4.900 |

## O-ring seal (6)

| d [mm] | Inch | DN [mm] | NBR Code | kg |
|---|---|---|---|---|
| 90 | 3 | 80 | **745 410 107** | 0.007 |
| 110 | 4 | 100 | **745 410 107** | 0.007 |

## Indicator cap (7)

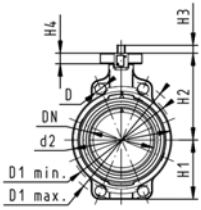
| d [mm] | Inch | DN [mm] | PVC-U SAN Code | kg |
|---|---|---|---|---|
| 90 | 3 | 80 | **161 481 759** | 0.032 |
| 110 | 4 | 100 | **161 481 760** | 0.035 |

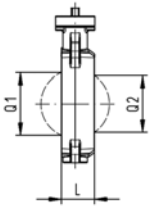
# Butterfly valves

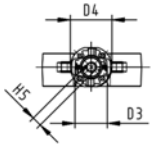
## Butterfly valve type 567 ABS
## Bare shaft

**Model:**

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220
- Overall length according to EN 558, ISO 5752
- Interface F07 according to DIN/ISO 5211




| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 567 802** | 0.763 |
| 75 | 65 | 10 | 2200 | **169 567 803** | 0.859 |
| 90 | 80 | 10 | 3000 | **169 567 804** | 0.999 |
| 110 | 100 | 10 | 6500 | **169 567 805** | 1.535 |
| 140 | 125 | 10 | 11500 | **169 567 806** | 2.018 |
| 160 | 150 | 10 | 16600 | **169 567 807** | 2.858 |
| 225 | 200 | 10 | 39600 | **169 567 808** | 4.129 |

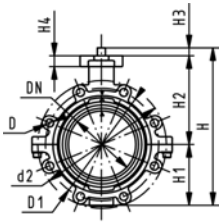
| d [mm] | D [mm] | D1 min. [mm] | D1 max. [mm] | d2 [mm] | D3 [mm] | D4 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | H4 [mm] | H5 [mm] | L [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 19 | 120.0 | 125.0 | 104 | 70 | 90 | 222 | 77 | 134 | 27 | 23 | 11 | 45 |
| 75 | 19 | 139.7 | 145.0 | 115 | 70 | 90 | 235 | 83 | 140 | 27 | 23 | 11 | 46 |
| 90 | 19 | 150.0 | 160.0 | 131 | 70 | 90 | 247 | 89 | 146 | 27 | 23 | 11 | 49 |
| 110 | 19 | 175.0 | 190.5 | 161 | 70 | 90 | 287 | 104 | 167 | 16 | 23 | 14 | 56 |
| 140 | 23 | 210.0 | 215.9 | 187 | 70 | 90 | 313 | 117 | 181 | 16 | 23 | 14 | 64 |
| 160 | 24 | 241.3 | 241.3 | 215 | 70 | 90 | 335 | 130 | 189 | 19 | 23 | 17 | 72 |
| 225 | 23 | 290.0 | 295.0 | 267 | 70 | 90 | 387 | 158 | 210 | 19 | 23 | 17 | 73 |

| d [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|
| 63 | 40 | |
| 75 | 54 | 35 |
| 90 | 67 | 50 |
| 110 | 88 | 74 |
| 140 | 113 | 97 |
| 160 | 139 | 123 |
| 225 | 178 | 169 |

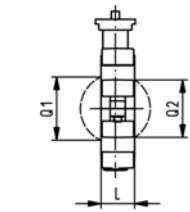
## Lugstyle butterfly valve type 568 ABS
## Bare shaft

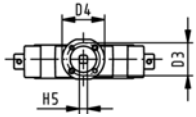
**Model:**

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension: ISO 7005 PN10, EN 1092 PN10, DIN 2501 PN10
- Overall length according to EN 558, ISO 5752
- Interface F07 according to DIN/ISO 5211




| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 568 802** | 2.853 |
| 75 | 65 | 10 | 2200 | **169 568 803** | 3.200 |
| 90 | 80 | 10 | 3000 | **169 568 804** | 4.217 |
| 110 | 100 | 10 | 6500 | **169 568 805** | 5.633 |
| 140 | 125 | 10 | 11500 | **169 568 806** | 7.502 |
| 160 | 150 | 10 | 16600 | **169 568 807** | 9.341 |
| 225 | 200 | 10 | 39600 | **169 568 808** | 14.105 |



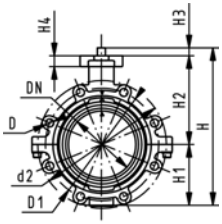




| d [mm] | d2 [mm] | D | D1 [mm] | D3 [mm] | D4 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | H4 [mm] | L [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 150 | M16 | 125 | 70 | 90 | 222 | 77 | 134 | 27 | 23 | 45 | 40 | |
| 75 | 170 | M16 | 145 | 70 | 90 | 235 | 83 | 140 | 27 | 23 | 46 | 54 | 35 |
| 90 | 184 | M16 | 160 | 70 | 90 | 247 | 89 | 146 | 27 | 23 | 49 | 67 | 50 |
| 110 | 216 | M16 | 180 | 70 | 90 | 287 | 104 | 167 | 16 | 23 | 56 | 88 | 74 |
| 140 | 246 | M16 | 210 | 70 | 90 | 313 | 117 | 181 | 16 | 23 | 64 | 113 | 97 |
| 160 | 273 | M20 | 240 | 70 | 90 | 335 | 130 | 189 | 19 | 23 | 72 | 139 | 123 |
| 225 | 334 | M20 | 295 | 70 | 90 | 387 | 158 | 210 | 19 | 23 | 73 | 178 | 169 |

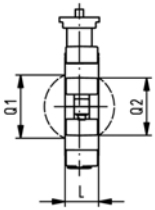
## Lugstyle butterfly valve type 568 ABS
## Bare shaft

**Model:**

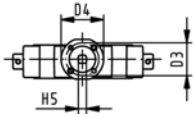
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI/ASME B 16.5 Class 150
- Overall length according to EN 558, ISO 5752
- Interface F07 according to DIN/ISO 5211




| Inch | d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|---|
| 2 | 63 | 50 | 10 | 1470 | **169 568 902** | 2.853 |
| 2 ½ | 75 | 65 | 10 | 2200 | **169 568 903** | 3.200 |
| 3 | 90 | 80 | 10 | 3000 | **169 568 904** | 3.588 |
| 4 | 110 | 100 | 10 | 6500 | **169 568 905** | 5.633 |
| 5 | 140 | 125 | 10 | 11500 | **169 568 906** | 7.502 |
| 6 | 160 | 150 | 10 | 16600 | **169 568 907** | 9.341 |
| 8 | 225 | 200 | 10 | 39600 | **169 568 908** | 14.105 |




| Inch | d2 [mm] | D | D1 [mm] | D3 [mm] | D4 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | H4 [mm] | L [mm] | Q1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 150 | UNC 5/8 | 121 | 70 | 90 | 222 | 77 | 134 | 27 | 23 | 45 | 40 |
| 2 ½ | 170 | UNC 5/8 | 138 | 70 | 90 | 235 | 83 | 140 | 27 | 23 | 46 | 54 |
| 3 | 177 | UNC 5/8 | 152 | 70 | 90 | 247 | 89 | 146 | 27 | 23 | 49 | 67 |
| 4 | 216 | UNC 5/8 | 191 | 70 | 90 | 287 | 104 | 167 | 16 | 23 | 56 | 88 |
| 5 | 246 | UNC 3/4 | 216 | 70 | 90 | 313 | 117 | 181 | 16 | 23 | 64 | 113 |
| 6 | 273 | UNC 3/4 | 241 | 70 | 90 | 335 | 130 | 189 | 19 | 23 | 72 | 139 |
| 8 | 334 | UNC 3/4 | 298 | 70 | 90 | 387 | 158 | 210 | 19 | 23 | 73 | 178 |

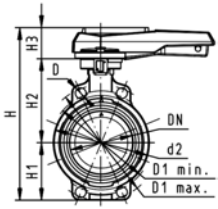


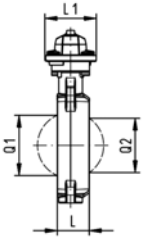

| Inch | Q2 [mm] |
|---|---|
| 2 | |
| 2 ½ | 35 |
| 3 | 50 |
| 4 | 74 |
| 5 | 97 |
| 6 | 123 |
| 8 | 169 |

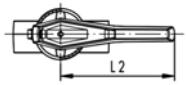
## Butterfly valve type 567 ABS
## Hand lever with ratchet settings

**Model:**

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220
- Overall length according to EN 558, ISO 5752



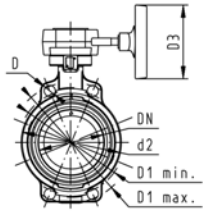

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 567 002** | 1.400 |
| 75 | 65 | 10 | 2200 | **169 567 003** | 1.150 |
| 90 | 80 | 10 | 3000 | **169 567 004** | 1.221 |
| 110 | 100 | 10 | 6500 | **169 567 005** | 1.805 |
| 140 | 125 | 10 | 11500 | **169 567 006** | 2.536 |
| 160 | 150 | 10 | 16600 | **169 567 007** | 3.128 |
| 225 | 200 | 10 | 39600 | **169 567 008** | 4.936 |

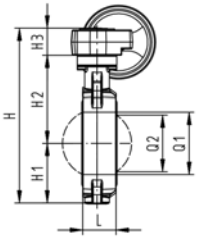
| d [mm] | D [mm] | D1 min. [mm] | D1 max. [mm] | d2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 19 | 120.0 | 125.0 | 104 | 264 | 77 | 134 | 54 | 45 | 106 | 205 | 40 | |
| 75 | 19 | 139.7 | 145.0 | 115 | 277 | 83 | 140 | 54 | 46 | 106 | 205 | 54 | 35 |
| 90 | 19 | 150.0 | 160.0 | 131 | 289 | 89 | 146 | 54 | 49 | 106 | 205 | 67 | 50 |
| 110 | 19 | 175.0 | 190.5 | 161 | 325 | 104 | 167 | 55 | 56 | 106 | 255 | 88 | 74 |
| 140 | 23 | 210.0 | 215.9 | 187 | 352 | 117 | 181 | 55 | 64 | 106 | 255 | 113 | 97 |
| 160 | 24 | 241.3 | 241.3 | 215 | 373 | 130 | 189 | 55 | 72 | 106 | 255 | 139 | 123 |
| 225 | 23 | 290.0 | 295.0 | 267 | 435 | 158 | 210 | 67 | 73 | 140 | 408 | 178 | 169 |

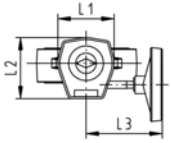
## Butterfly valve type 567 ABS
## Reduction gear with handwheel

**Model:**

- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220
- Overall length according to EN 558, ISO 5752




| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 567 022** | 3.078 |
| 75 | 65 | 10 | 2200 | **169 567 023** | 3.201 |
| 90 | 80 | 10 | 3000 | **169 567 024** | 3.259 |
| 110 | 100 | 10 | 6500 | **169 567 025** | 3.795 |
| 140 | 125 | 10 | 11500 | **169 567 026** | 4.526 |
| 160 | 150 | 10 | 16600 | **169 567 027** | 5.118 |
| 225 | 200 | 10 | 39600 | **169 567 028** | 6.389 |

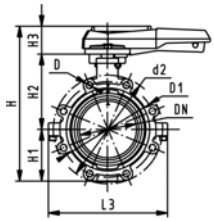
| d [mm] | D [mm] | D1 min. [mm] | D1 max. [mm] | d2 [mm] | D3 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 19 | 120.0 | 125.0 | 104 | 150 | 278 | 77 | 134 | 50 | 45 | 110 | 120 |
| 75 | 19 | 139.7 | 145.0 | 115 | 150 | 291 | 83 | 140 | 50 | 46 | 110 | 120 |
| 90 | 19 | 150.0 | 160.0 | 131 | 150 | 303 | 89 | 146 | 50 | 49 | 110 | 120 |
| 110 | 19 | 175.0 | 190.5 | 160 | 150 | 339 | 104 | 167 | 50 | 56 | 110 | 120 |
| 140 | 23 | 210.0 | 215.9 | 187 | 150 | 365 | 117 | 181 | 50 | 64 | 110 | 120 |
| 160 | 24 | 241.3 | 241.3 | 215 | 150 | 387 | 130 | 189 | 50 | 72 | 110 | 120 |
| 225 | 23 | 290.0 | 295.0 | 267 | 150 | 436 | 158 | 210 | 50 | 73 | 110 | 120 |

| d [mm] | L3 [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|---|
| 63 | 155 | 40 | |
| 75 | 155 | 54 | 35 |
| 90 | 155 | 67 | 50 |
| 110 | 155 | 88 | 74 |
| 140 | 155 | 113 | 97 |
| 160 | 155 | 139 | 123 |
| 225 | 155 | 178 | 169 |

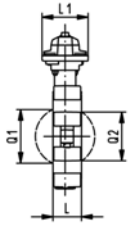
## Lugstyle butterfly valve type 568 ABS
## Hand lever with ratchet settings

**Model:**

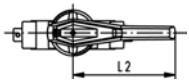
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI/ASME B 16.5 Class 150
- Overall length according to EN 558, ISO 5752




| Inch | d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|---|
| 2 | 63 | 50 | 10 | 1470 | **169 568 102** | 3.075 |
| 2 ½ | 75 | 65 | 10 | 2200 | **169 568 103** | 3.422 |
| 3 | 90 | 80 | 10 | 3000 | **169 568 104** | 3.810 |
| 4 | 110 | 100 | 10 | 6500 | **169 568 105** | 5.903 |
| 5 | 140 | 125 | 10 | 11500 | **169 568 106** | 7.772 |
| 6 | 160 | 150 | 10 | 16600 | **169 568 107** | 9.611 |
| 8 | 225 | 200 | 10 | 39600 | **169 568 108** | 14.912 |




| Inch | d2 [mm] | D | D1 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | Q1 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 150 | UNC 5/8 | 121 | 265 | 77 | 134 | 54 | 45 | 106 | 205 | 150 | 40 |
| 2 ½ | 170 | UNC 5/8 | 138 | 277 | 83 | 140 | 54 | 46 | 106 | 205 | 160 | 54 |
| 3 | 177 | UNC 5/8 | 152 | 289 | 89 | 146 | 54 | 49 | 106 | 205 | 175 | 67 |
| 4 | 216 | UNC 5/8 | 191 | 326 | 104 | 167 | 55 | 56 | 106 | 255 | 244 | 88 |
| 5 | 246 | UNC 3/4 | 216 | 353 | 117 | 181 | 55 | 64 | 106 | 255 | 272 | 113 |
| 6 | 273 | UNC 3/4 | 241 | 374 | 130 | 189 | 55 | 72 | 106 | 255 | 297 | 139 |
| 8 | 334 | UNC 3/4 | 298 | 435 | 158 | 210 | 67 | 73 | 140 | 408 | 360 | 178 |

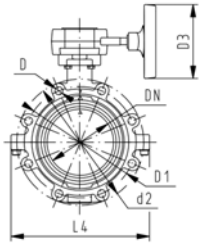


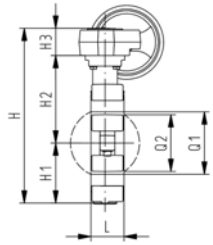

| Inch | Q2 [mm] |
|---|---|
| 2 | |
| 2 ½ | 35 |
| 3 | 50 |
| 4 | 74 |
| 5 | 97 |
| 6 | 123 |
| 8 | 169 |

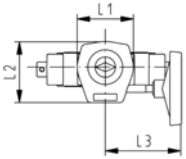
## Lugstyle butterfly valve type 568 ABS
## Reduction gear with handwheel

**Model:**

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension ANSI/ASME B 16.5 Class 150
- Overall length according to EN 558, ISO 5752




| Inch | d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|---|
| 2 | 63 | 50 | 10 | 1470 | **169 568 122** | 5.113 |
| 2 ½ | 75 | 65 | 10 | 2200 | **169 568 123** | 5.460 |
| 3 | 90 | 80 | 10 | 3000 | **169 568 124** | 5.848 |
| 4 | 110 | 100 | 10 | 6500 | **169 568 125** | 7.893 |
| 5 | 140 | 125 | 10 | 11500 | **169 568 126** | 9.762 |
| 6 | 160 | 150 | 10 | 16600 | **169 568 127** | 11.601 |
| 8 | 225 | 200 | 10 | 39600 | **169 568 128** | 16.365 |

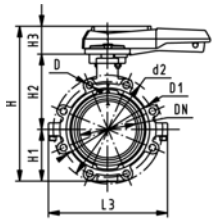
| Inch | d2 [mm] | D | D1 [mm] | D3 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 150 | UNC 5/8 | 121 | 150 | 279 | 77 | 134 | 50 | 45 | 110 | 120 | 155 |
| 2 ½ | 170 | UNC 5/8 | 138 | 150 | 291 | 83 | 140 | 50 | 46 | 110 | 120 | 155 |
| 3 | 177 | UNC 5/8 | 152 | 150 | 303 | 89 | 146 | 50 | 49 | 110 | 120 | 155 |
| 4 | 216 | UNC 5/8 | 191 | 150 | 339 | 104 | 167 | 50 | 56 | 110 | 120 | 155 |
| 5 | 246 | UNC 3/4 | 216 | 150 | 366 | 117 | 181 | 50 | 64 | 110 | 120 | 155 |
| 6 | 273 | UNC 3/4 | 241 | 150 | 387 | 130 | 189 | 50 | 72 | 110 | 120 | 155 |
| 8 | 334 | UNC 3/4 | 298 | 150 | 436 | 158 | 210 | 50 | 73 | 110 | 120 | 155 |

| Inch | L4 [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|---|
| 2 | 150 | 40 | |
| 2 ½ | 160 | 54 | 35 |
| 3 | 175 | 67 | 50 |
| 4 | 244 | 88 | 74 |
| 5 | 272 | 113 | 97 |
| 6 | 297 | 139 | 123 |
| 8 | 360 | 178 | 169 |

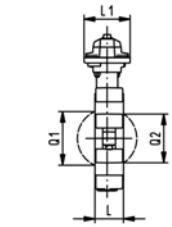
## Lugstyle butterfly valve type 568 ABS
## Hand lever with ratchet settings

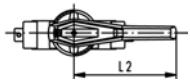
**Model:**

- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension: ISO 7005 PN10, EN 1092 PN10, DIN 2501 PN10
- Overall length according to EN 558, ISO 5752




| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 568 002** | 3.075 |
| 75 | 65 | 10 | 2200 | **169 568 003** | 3.422 |
| 90 | 80 | 10 | 3000 | **169 568 004** | 4.439 |
| 110 | 100 | 10 | 6500 | **169 568 005** | 5.903 |
| 140 | 125 | 10 | 11500 | **169 568 006** | 7.772 |
| 160 | 150 | 10 | 16600 | **169 568 007** | 9.611 |
| 225 | 200 | 10 | 39600 | **169 568 008** | 14.912 |



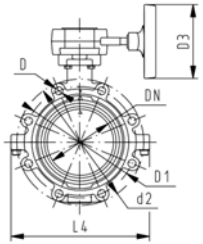




| d [mm] | d2 [mm] | D | D1 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 150 | M16 | 125 | 265 | 77 | 134 | 54 | 45 | 106 | 205 | 150 | 40 | |
| 75 | 170 | M16 | 145 | 277 | 83 | 140 | 54 | 46 | 106 | 205 | 160 | 54 | 35 |
| 90 | 184 | M16 | 160 | 289 | 89 | 146 | 54 | 49 | 106 | 205 | 205 | 67 | 50 |
| 110 | 216 | M16 | 180 | 326 | 104 | 167 | 55 | 56 | 106 | 255 | 244 | 88 | 74 |
| 140 | 246 | M16 | 210 | 353 | 117 | 181 | 55 | 64 | 106 | 255 | 272 | 113 | 97 |
| 160 | 273 | M20 | 240 | 374 | 130 | 189 | 55 | 72 | 106 | 255 | 297 | 139 | 123 |
| 225 | 334 | M20 | 295 | 435 | 158 | 210 | 67 | 73 | 140 | 408 | 360 | 178 | 169 |

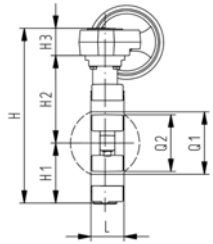
## Lugstyle butterfly valve type 568 ABS
## Reduction gear with handwheel

**Model:**

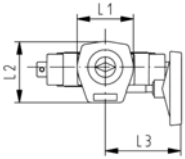
- Outer body in GGG-40.3 epoxy-coated
- Connecting dimension: ISO 7005 PN10, EN 1092 PN10, DIN 2501 PN10
- Overall length according to EN 558, ISO 5752



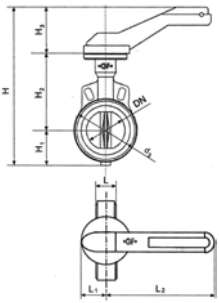

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg |
|---|---|---|---|---|---|
| 63 | 50 | 10 | 1470 | **169 568 022** | 5.113 |
| 75 | 65 | 10 | 2200 | **169 568 023** | 5.460 |
| 90 | 80 | 10 | 3000 | **169 568 024** | 6.477 |
| 110 | 100 | 10 | 6500 | **169 568 025** | 7.893 |
| 140 | 125 | 10 | 11500 | **169 568 026** | 9.762 |
| 160 | 150 | 10 | 16600 | **169 568 027** | 11.601 |
| 225 | 200 | 10 | 39600 | **169 568 028** | 16.365 |




| d [mm] | d2 [mm] | D | D1 [mm] | D3 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 150 | M16 | 125 | 150 | 279 | 77 | 134 | 50 | 45 | 110 | 120 | 155 | 150 |
| 75 | 170 | M16 | 145 | 150 | 291 | 83 | 140 | 50 | 46 | 110 | 120 | 155 | 160 |
| 90 | 184 | M16 | 160 | 150 | 303 | 89 | 146 | 50 | 49 | 110 | 120 | 155 | 205 |
| 110 | 216 | M16 | 180 | 150 | 339 | 104 | 167 | 50 | 56 | 110 | 120 | 155 | 244 |
| 140 | 246 | M16 | 210 | 150 | 366 | 117 | 181 | 50 | 64 | 110 | 120 | 155 | 272 |
| 160 | 273 | M20 | 240 | 150 | 387 | 130 | 189 | 50 | 72 | 110 | 120 | 155 | 297 |
| 225 | 334 | M20 | 295 | 150 | 436 | 158 | 210 | 50 | 73 | 110 | 120 | 155 | 360 |




| d [mm] | Q1 [mm] | Q2 [mm] |
|---|---|---|
| 63 | 40 | |
| 75 | 54 | 35 |
| 90 | 67 | 50 |
| 110 | 88 | 74 |
| 140 | 113 | 97 |
| 160 | 139 | 123 |
| 225 | 178 | 169 |




## Metal - butterfly valve type 037M
## With hand lever

**Model:**

- Housing: Aluminium ASTM S 12A, Rilsan® coated
- Seatliner available in EPDM and FPM

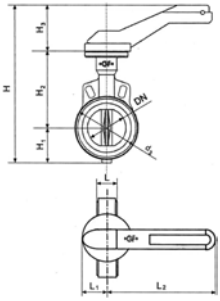
| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: ductile iron/ Rilsan® coated EPDM Code | Disc: ductile iron/ Rilsan® coated FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 037 000** | **199 037 013** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 037 001** | **199 037 014** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 037 002** | **199 037 015** |
| 110 | 100 | 4 | 10 | 11710 | 800 | **199 037 003** | **199 037 016** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 037 004** | **199 037 017** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 037 005** | **199 037 018** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 037 006** | **199 037 019** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 037 007** | **199 037 020** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 037 008** | **199 037 021** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: stainless steel EPDM Code | Disc: stainless steel FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 037 200** | **199 037 213** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 037 201** | **199 037 214** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 037 202** | **199 037 215** |
| 110 | 100 | 4 | 10 | 11710 | 800 | **199 037 203** | **199 037 216** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 037 204** | **199 037 217** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 037 205** | **199 037 218** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 037 206** | **199 037 219** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 037 207** | **199 037 220** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 037 208** | **199 037 221** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze EPDM Code | Disc: Alu-bronze FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 037 400** | **199 037 413** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 037 401** | **199 037 414** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 037 402** | **199 037 415** |
| 110 | 100 | 4 | 10 | 11710 | 800 | **199 037 403** | **199 037 416** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 037 404** | **199 037 417** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 037 405** | **199 037 418** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 037 406** | **199 037 419** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 037 407** | **199 037 420** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 037 408** | **199 037 421** |

| d [mm] | DN [mm] | d3 [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 63 | 50 | 95 | 43 | 45 | 220 | 290 | 53 | 140 | 95 |
| 75 | 65 | 114 | 46 | 45 | 220 | 312 | 63 | 152 | 95 |
| 90 | 80 | 131 | 46 | 45 | 220 | 327 | 71 | 159 | 95 |
| 110 | 100 | 152 | 52 | 45 | 220 | 360 | 87 | 178 | 95 |
| 140 | 125 | 182 | 56 | 45 | 320 | 388 | 102 | 191 | 95 |
| 160 | 150 | 209 | 56 | 45 | 320 | 416 | 118 | 203 | 95 |

table continued next page

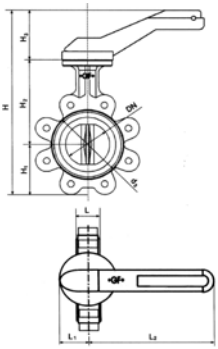


| d [mm] | DN [mm] | d3 [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 225 | 200 | 262 | 60 | 45 | 320 | 489 | 149 | 245 | 95 |
| 280 | 250 | 331 | 68 | 63 | 560 | 525 | 200 | 275 | 50 |
| 315 | 300 | 380 | 78 | 63 | 560 | 592 | 227 | 315 | 50 |

## Metal - butterfly valve type 038M
## With hand lever

**Model:**

- Seatliner available in EPDM and FPM
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

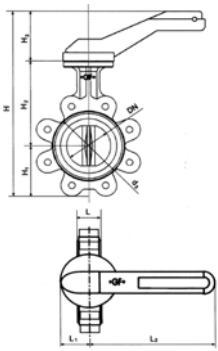


| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: ductile iron/ Rilsan® coated EPDM Code | Disc: ductile iron/ Rilsan® coated FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 000** | **199 038 013** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 001** | **199 038 014** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 002** | **199 038 015** |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 003** | **199 038 016** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 004** | **199 038 017** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 005** | **199 038 018** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 006** | **199 038 019** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 007** | **199 038 020** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 008** | **199 038 021** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: stainless steel EPDM Code | Disc: stainless steel FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 200** | **199 038 213** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 201** | **199 038 214** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 202** | **199 038 215** |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 203** | **199 038 216** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 204** | **199 038 217** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 205** | **199 038 218** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 206** | **199 038 219** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 207** | **199 038 220** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 208** | **199 038 221** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze EPDM Code |
|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 400** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 401** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 402** |

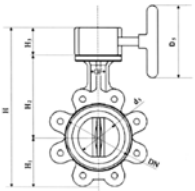
table continued next page

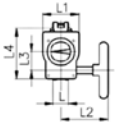


| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze EPDM Code |
|---|---|---|---|---|---|---|
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 403** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 404** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 405** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 406** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 407** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 408** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze FPM Code | kg |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 413** | 3.800 |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 414** | 4.900 |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 415** | 5.400 |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 416** | 9.100 |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 417** | 11.000 |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 418** | 12.800 |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 419** | 19.300 |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 420** | 35.000 |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 421** | 49.000 |

| d [mm] | d3 [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] |
|---|---|---|---|---|---|---|---|---|
| 63 | 95 | 43 | 45 | 220 | 298 | 63 | 95 | 152 |
| 75 | 114 | 46 | 45 | 220 | 320 | 73 | 95 | 178 |
| 90 | 131 | 46 | 45 | 220 | 335 | 81 | 95 | 200 |
| 110 | 152 | 52 | 45 | 220 | 370 | 97 | 95 | 229 |
| 140 | 182 | 56 | 45 | 320 | 398 | 112 | 95 | 254 |
| 160 | 209 | 56 | 45 | 320 | 420 | 122 | 95 | 280 |
| 225 | 262 | 60 | 45 | 320 | 489 | 149 | 95 | 343 |
| 280 | 331 | 68 | 63 | 560 | 573 | 203 | 95 | 406 |
| 315 | 380 | 78 | 63 | 560 | 651 | 241 | 95 | 483 |





## Metal - butterfly valve type 038G
## Reduction gear with handwheel

**Model:**

- Seatliner available in EPDM and FPM
- Housing: ductile iron GGG-40/ASTM A536, Rilsan® coated
- Available in ANSI standard upon request
- In case this valve is used at the end of the line, the following pressures must not be exceeded: DN50 to DN150 5,6bar and >DN200 3,5bar

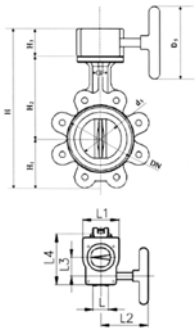
| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: ductile iron/ Rilsan® coated EPDM Code | Disc: ductile iron/ Rilsan® coated FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 026** | **199 038 039** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 027** | **199 038 040** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 028** | **199 038 041** |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 029** | **199 038 042** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 030** | **199 038 043** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 031** | **199 038 044** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 032** | **199 038 045** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 033** | **199 038 046** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 034** | **199 038 047** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: stainless steel EPDM Code | Disc: stainless steel FPM Code |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 226** | **199 038 239** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 227** | **199 038 240** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 228** | **199 038 241** |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 229** | **199 038 242** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 230** | **199 038 243** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 231** | **199 038 244** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 232** | **199 038 245** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 233** | **199 038 246** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 234** | **199 038 247** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze EPDM Code |
|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 426** |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 427** |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 428** |
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 429** |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 430** |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 431** |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 432** |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 433** |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 434** |

| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze FPM Code | kg |
|---|---|---|---|---|---|---|---|
| 63 | 50 | 2 | 10 | 3140 | 220 | **199 038 439** | 5.300 |
| 75 | 65 | 2 ½ | 10 | 4570 | 320 | **199 038 440** | 6.400 |
| 90 | 80 | 3 | 10 | 7140 | 500 | **199 038 441** | 6.900 |

table continued next page

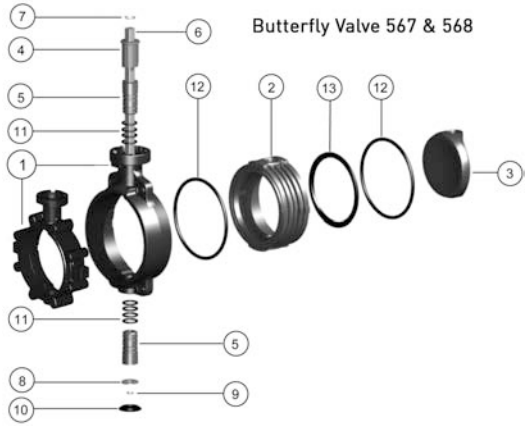



| d [mm] | DN [mm] | Inch | PN | kv-value (Δp=1 bar) [l/min] | Cv value (Δp=1 psi) [gal (US) / min] | Disc: Alu-bronze FPM Code | kg |
|---|---|---|---|---|---|---|---|
| 110 | 100 | 4 | 10 | 11710 | 820 | **199 038 442** | 10.400 |
| 140 | 125 | 5 | 10 | 18570 | 1300 | **199 038 443** | 12.300 |
| 160 | 150 | 6 | 10 | 27130 | 1900 | **199 038 444** | 14.100 |
| 225 | 200 | 8 | 10 | 47130 | 3330 | **199 038 445** | 20.400 |
| 280 | 250 | 10 | 10 | 77110 | 5400 | **199 038 446** | 37.000 |
| 315 | 300 | 12 | 10 | 114240 | 8000 | **199 038 447** | 51.000 |

| d [mm] | d3 [mm] | D5 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | 95 | 125 | 43 | 84 | 152 | 38 | 107 | 261 | 63 | 140 | 58 |
| 75 | 114 | 125 | 46 | 84 | 152 | 38 | 107 | 283 | 73 | 152 | 58 |
| 90 | 131 | 125 | 46 | 84 | 152 | 38 | 107 | 298 | 81 | 159 | 58 |
| 110 | 152 | 125 | 52 | 84 | 152 | 38 | 107 | 333 | 97 | 178 | 58 |
| 140 | 182 | 125 | 56 | 84 | 152 | 38 | 107 | 361 | 112 | 191 | 58 |
| 160 | 209 | 125 | 56 | 84 | 152 | 38 | 107 | 383 | 122 | 203 | 58 |
| 225 | 262 | 125 | 60 | 84 | 152 | 38 | 107 | 452 | 149 | 245 | 58 |
| 280 | 331 | 250 | 68 | 106 | 152 | 52 | 141 | 545 | 203 | 275 | 67 |
| 315 | 380 | 250 | 78 | 106 | 152 | 52 | 141 | 623 | 241 | 315 | 67 |

# Spare parts butterfly valves

## Spare parts butterfly valve type 567/568




### Inner body

**Model:**

- Inner body consisting of: inner body (2) and profile seal (13)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 63 | 2 | 50 | **169 481 067** | 0.113 |
| 75 | 2 ½ | 65 | **169 481 068** | 0.137 |
| 90 | 3 | 80 | **169 481 069** | 0.194 |
| 110 | 4 | 100 | **169 481 070** | 0.346 |
| 140 | 5 | 125 | **169 481 071** | 0.510 |
| 160 | 6 | 150 | **169 481 072** | 0.632 |
| 225 | 8 | 200 | **169 481 073** | 1.085 |

### Flange seal (12)

**Model:**

- included in delivery 1 pcs.

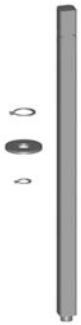
| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 63 | 2 | 50 | **161 486 959** | 0.007 |
| 75 | 2 ½ | 65 | **161 486 960** | 0.008 |
| 90 | 3 | 80 | **161 486 961** | 0.009 |
| 110 | 4 | 100 | **161 486 962** | 0.021 |
| 125 | 5 | 125 | **161 486 963** | 0.025 |
| 160 | 6 | 150 | **161 486 964** | 0.030 |
| 225 | 8 | 200 | **161 486 965** | 0.037 |
| 280 | 10 | 250 | **161 486 966** | 0.053 |
| 315 | 12 | 300 | **161 486 967** | 0.061 |
| 355 | 14 | 350 | **748 410 318** | 0.001 |
| 400 | 16 | 400 | **748 410 319** | 0.002 |
| 450 | 18 | 450 | **748 410 320** | 0.002 |
| 500 | 20 | 500 | **748 410 321** | 0.002 |
| 630 | 24 | 600 | **748 410 322** | 0.002 |

## Disc (3)

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 63 | 2 | 50 | **169 480 951** | 0.027 |
| 75 | 2 ½ | 65 | **169 480 952** | 0.046 |
| 90 | 3 | 80 | **169 480 953** | 0.078 |
| 110 | 4 | 100 | **169 480 954** | 0.151 |
| 140 | 5 | 125 | **169 480 955** | 0.272 |
| 160 | 6 | 150 | **169 480 956** | 0.475 |
| 225 | 8 | 200 | **169 480 957** | 0.590 |

## End stopp PP glasfiber reinforced (4)

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 63 | 2 | 50 | **167 483 251** | 0.023 |
| 75 | 2 ½ | 65 | **167 483 251** | 0.023 |
| 90 | 3 | 80 | **167 483 251** | 0.023 |
| 110 | 4 | 100 | **167 483 252** | 0.033 |
| 140 | 5 | 125 | **167 483 252** | 0.033 |
| 160 | 6 | 150 | **167 483 253** | 0.049 |
| 225 | 8 | 200 | **167 483 253** | 0.049 |
| 280 | 10 | 250 | **167 483 254** | 0.096 |
| 315 | 12 | 300 | **167 483 254** | 0.096 |



## Shaft set

**Model:**

- Shaft set consisting of: shaft chrom steel 1.4301 AISI 304 (6), retention ring (7, 9) and washer (8)

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 63 | 2 | 50 | **161 486 899** | 0.225 |
| 75 | 2 ½ | 65 | **161 486 900** | 0.237 |
| 90 | 3 | 80 | **161 486 901** | 0.249 |
| 110 | 4 | 100 | **161 486 902** | 0.429 |
| 140 | 5 | 125 | **161 486 903** | 0.469 |
| 160 | 6 | 150 | **161 486 904** | 0.749 |
| 225 | 8 | 200 | **161 486 905** | 0.844 |
| 280 | 10 | 250 | **161 486 906** | 2.335 |
| 315 | 12 | 300 | **161 486 907** | 2.536 |
| 355 | 14 | 350 | **161 486 908** | 7.600 |
| 400 | 16 | 400 | **161 486 909** | 8.900 |
| 450 | 18 | 450 | **161 486 926** | 11.800 |
| 500 | 20 | 500 | **161 486 927** | 14.400 |
| 630 | 24 | 600 | **161 486 928** | 26.000 |

## Hand lever

| d [mm] | Inch | DN [mm] | with index plate Code | with fine adjustment Code | kg |
|---|---|---|---|---|---|
| 63 | 2 | 50 | **161 486 690** | **161 486 325** | 0.485 |
| 75 | 2 ½ | 65 | **161 486 690** | **161 486 325** | 0.485 |
| 90 | 3 | 80 | **161 486 690** | **161 486 325** | 0.485 |

table continued next page

| d [mm] | Inch | DN [mm] | with index plate Code | with fine adjustment Code | kg |
|---|---|---|---|---|---|
| 110 | 4 | 100 | **161 486 691** | **161 486 326** | 0.540 |
| 140 | 5 | 125 | **161 486 691** | **161 486 326** | 0.540 |
| 160 | 6 | 150 | **161 486 694** | **161 486 327** | 0.537 |
| 225 | 8 | 200 | **161 486 695** | **161 486 328** | 1.375 |
| 280 | 10 | 250 | **161 486 697** | | 0.330 |
| 315 | 12 | 300 | **161 486 697** | | 0.330 |

## Profile seal (13) DN350-600

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 355 | 14 | 350 | **748 440 018** | 0.261 |
| 400 | 16 | 400 | **748 440 019** | 0.297 |
| 450 | 18 | 450 | **748 440 020** | 0.430 |
| 500 | 20 | 500 | **748 440 021** | 0.480 |
| 630 | 24 | 600 | **748 440 022** | 0.686 |

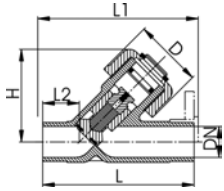
## Intermediate element
## Gear operated with handwheel 567 / 568

| d [mm] | DN [mm] | Code | kg |
|---|---|---|---|
| 63 | 50 | **198 000 621** | 0.150 |
| 75 | 65 | **198 000 621** | 0.150 |
| 90 | 80 | **198 000 621** | 0.150 |
| 110 | 100 | **198 000 622** | 0.150 |
| 140 | 125 | **198 000 622** | 0.150 |
| 160 | 150 | **198 000 599** | 0.100 |
| 225 | 200 | **198 000 599** | 0.100 |
| 280 | 250 | **198 000 880** | 0.750 |
| 315 | 300 | **198 000 880** | 0.750 |

## Reduction gear with handwheel

| d [mm] | Inch | DN [mm] | Code | kg |
|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 482 408** | 2.260 |
| 90 | 3 | 80 | **161 482 408** | 2.260 |
| 110 | 4 | 100 | **161 482 408** | 2.260 |
| 125 | 4 ½ | 125 | **161 482 408** | 2.260 |
| 160 | 6 | 150 | **161 482 408** | 2.260 |
| 225 | 8 | 200 | **161 482 408** | 2.260 |
| 280 | 10 | 250 | **161 483 462** | 2.840 |
| 315 | 12 | 300 | **161 483 462** | 2.840 |

# Angle seat check valves



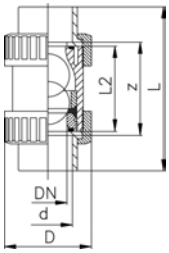

## Angle seat check valve type 303 ABS
## With solvent cement spigots metric

**Model:**

- For horizontal or vertical installation
- Leakproof from: EPDM 2m, FPM 3m water column
- Specific gravity of piston approx. 2 kg/dm³
- Overall length EN 558

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | 10 | 95 | **169 303 006** | 0.090 | 43 | 124 | 130 | 28 | 65 |
| 25 | 20 | 10 | 180 | **169 303 007** | 0.137 | 47 | 144 | 150 | 37 | 75 |
| 32 | 25 | 10 | 327 | **169 303 008** | 0.228 | 56 | 154 | 160 | 37 | 90 |
| 40 | 32 | 10 | 484 | **169 303 009** | 0.348 | 64 | 174 | 180 | 44 | 102 |
| 50 | 40 | 10 | 725 | **169 303 010** | 0.624 | 82 | 194 | 200 | 48 | 123 |
| 63 | 50 | 10 | 1130 | **169 303 011** | 1.108 | 95 | 224 | 230 | 60 | 144 |

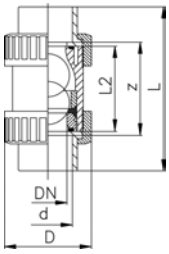
# Ball check (non-return) valve




## Ball check (non return) valve type 360 ABS
## With solvent cement sockets Inch BS

| Inch | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | FPM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 16 | 170 | **169 360 521** | **169 360 531** | 0.105 |
| ½ | 16 | 150 | **169 360 522** | **169 360 532** | 0.105 |
| ¾ | 16 | 330 | **169 360 523** | **169 360 533** | 0.174 |
| 1 | 16 | 390 | **169 360 524** | **169 360 534** | 0.269 |
| 1 ¼ | 16 | 710 | **169 360 525** | **169 360 535** | 0.442 |
| 1 ½ | 16 | 900 | **169 360 526** | **169 360 536** | 0.727 |
| 2 | 16 | 1390 | **169 360 527** | **169 360 537** | 1.315 |

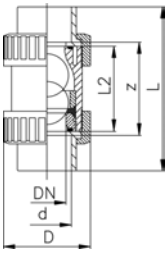
| Inch | z [mm] | D [mm] | L [mm] | L2 [mm] |
|---|---|---|---|---|
| ⅜ | 71 | 46 | 99 | 63 |
| ½ | 70 | 46 | 102 | 63 |
| ¾ | 82 | 56 | 120 | 75 |
| 1 | 87 | 67 | 131 | 79 |
| 1 ¼ | 98 | 82 | 150 | 89 |
| 1 ½ | 101 | 92 | 163 | 95 |
| 2 | 121 | 120 | 197 | 115 |




## Ball check (non return) valve type 360 ABS
## With threaded sockets Rp Inch

| Inch | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | FPM Code | kg |
|---|---|---|---|---|---|
| ⅜ | 16 | 170 | **169 360 421** | **169 360 431** | 0.105 |
| ½ | 16 | 150 | **169 360 422** | **169 360 432** | 0.105 |
| ¾ | 16 | 330 | **169 360 423** | **169 360 433** | 0.174 |
| 1 | 16 | 390 | **169 360 424** | **169 360 434** | 0.269 |
| 1 ¼ | 16 | 710 | **169 360 425** | **169 360 435** | 0.442 |
| 1 ½ | 16 | 900 | **169 360 426** | **169 360 436** | 0.727 |
| 2 | 16 | 1390 | **169 360 427** | **169 360 437** | 1.315 |

| Inch | z [mm] | D [mm] | L [mm] | L2 [mm] |
|---|---|---|---|---|
| ⅜ | 71 | 46 | 99 | 63 |
| ½ | 70 | 46 | 102 | 63 |
| ¾ | 82 | 56 | 120 | 75 |
| 1 | 87 | 67 | 131 | 79 |
| 1 ¼ | 98 | 82 | 150 | 89 |
| 1 ½ | 101 | 92 | 163 | 95 |
| 2 | 121 | 120 | 197 | 115 |




## Ball check (non-return) valve type 360 ABS
## With solvent cement sockets metric

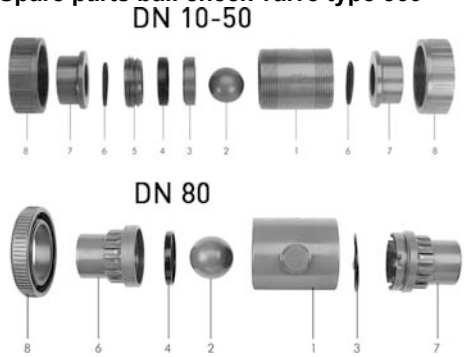
**Model:**

- For easy installation and removal
- The ball seals at a minimum water column of 2 m
- Vibration free even at high flow velocity
- Minimum temperature: - 40°C
- For horizontal or vertical installation

| d [mm] | DN [mm] | PN | kv-value (Δp=1 bar) [l/min] | EPDM Code | kg | z [mm] | D [mm] | L [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 16 | 10 | 10 | 170 | **169 360 401** | 0.105 | 71 | 45 | 99 | 63 |
| 20 | 15 | 10 | 150 | **169 360 402** | 0.105 | 70 | 45 | 102 | 63 |
| 25 | 20 | 10 | 330 | **169 360 403** | 0.175 | 82 | 56 | 120 | 75 |
| 32 | 25 | 10 | 390 | **169 360 404** | 0.271 | 87 | 67 | 131 | 79 |
| 40 | 32 | 10 | 710 | **169 360 405** | 0.445 | 98 | 82 | 150 | 89 |
| 50 | 40 | 10 | 900 | **169 360 406** | 0.715 | 101 | 92 | 163 | 95 |
| 63 | 50 | 10 | 1390 | **169 360 407** | 1.271 | 121 | 120 | 197 | 115 |

# Spare parts ball check valves

## Spare parts ball check valve type 360

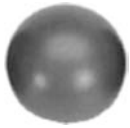



### Central part

**Model:**

- Central part consisting of: body (1), ball (2), support ring (3), sealing ring (4) and union bush (5)

| d [mm] | Inch | DN [mm] | ABS EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 480 250** | 0.063 |
| 20 | ½ | 15 | **169 480 251** | 0.063 |
| 25 | ¾ | 20 | **169 480 252** | 0.105 |
| 32 | 1 | 25 | **169 480 253** | 0.170 |
| 40 | 1 ¼ | 32 | **169 480 254** | 0.274 |
| 50 | 1 ½ | 40 | **169 480 255** | 0.422 |
| 63 | 2 | 50 | **169 480 256** | 0.799 |



### Ball (2)

| d [mm] | Inch | DN [mm] | PVC-U Code | PP-H with talc density 1.24 Code | PP-H 100% Code |
|---|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 330 304** | **167 481 165** | **167 480 024** |
| 20 | ½ | 15 | **161 330 304** | **167 481 165** | **167 480 024** |
| 25 | ¾ | 20 | **161 330 354** | **167 481 166** | **167 480 025** |
| 32 | 1 | 25 | **161 330 404** | **167 481 167** | **167 480 026** |
| 40 | 1 ¼ | 32 | **161 330 454** | **167 481 168** | **167 480 027** |
| 50 | 1 ½ | 40 | **161 330 504** | **167 481 169** | **167 480 028** |
| 63 | 2 | 50 | **161 330 554** | **167 481 170** | **167 480 029** |
| 90 | 3 | 80 | **161 330 654** | | |

| d [mm] | Inch | DN [mm] | PVDF Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **175 480 153** | 0.010 |
| 20 | ½ | 15 | **175 480 153** | 0.010 |
| 25 | ¾ | 20 | **175 480 154** | 0.014 |
| 32 | 1 | 25 | **175 480 155** | 0.028 |
| 40 | 1 ¼ | 32 | **175 480 156** | 0.064 |
| 50 | 1 ½ | 40 | **175 480 157** | 0.093 |
| 63 | 2 | 50 | **175 480 158** | 0.214 |
| 90 | 3 | 80 | | 0.475 |

## Sealing ring (4)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 483 259** | 0.005 |
| 20 | ½ | 15 | **161 483 259** | 0.005 |
| 25 | ¾ | 20 | **161 483 260** | 0.003 |
| 32 | 1 | 25 | **161 483 261** | 0.005 |
| 40 | 1 ¼ | 32 | **161 483 262** | 0.004 |
| 50 | 1 ½ | 40 | **161 483 263** | 0.012 |
| 63 | 2 | 50 | **161 483 264** | 0.025 |
| 90 | 3 | 80 | **161 480 141** | 0.046 |

## Face seal (6)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **748 410 042** | 0.002 |
| 20 | ½ | 15 | **748 410 042** | 0.002 |
| 25 | ¾ | 20 | **748 410 116** | 0.002 |
| 32 | 1 | 25 | **748 410 103** | 0.003 |
| 40 | 1 ¼ | 32 | **748 410 027** | 0.005 |
| 50 | 1 ½ | 40 | **748 410 010** | 0.004 |
| 63 | 2 | 50 | **748 410 011** | 0.005 |
| 90 | 3 | 80 | **748 410 099** | 0.009 |

## Union nut (8)

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 480 101** | 0.013 |
| 20 | ½ | 15 | **169 480 101** | 0.013 |
| 25 | ¾ | 20 | **169 480 102** | 0.030 |
| 32 | 1 | 25 | **169 480 103** | 0.004 |
| 40 | 1 ¼ | 32 | **169 480 104** | 0.063 |
| 50 | 1 ½ | 40 | **169 480 105** | 0.085 |
| 63 | 2 | 50 | **169 480 106** | 0.160 |

## Valve end with socket (7)

| d [mm] | Inch | DN [mm] | ABS metric Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **169 480 152** | 0.007 |
| 20 | ½ | 15 | **169 480 153** | 0.007 |
| 25 | ¾ | 20 | **169 480 154** | 0.010 |
| 32 | 1 | 25 | **169 480 155** | 0.016 |
| 40 | 1 ¼ | 32 | **169 480 156** | 0.032 |
| 50 | 1 ½ | 40 | **169 480 157** | 0.052 |
| 63 | 2 | 50 | **169 480 158** | 0.087 |

## Seal set (4, 6)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 16 | ⅜ | 10 | **161 482 910** | 0.003 |
| 20 | ½ | 15 | **161 482 910** | 0.003 |
| 25 | ¾ | 20 | **161 482 911** | 0.007 |
| 32 | 1 | 25 | **161 482 912** | 0.011 |
| 40 | 1 ¼ | 32 | **161 482 913** | 0.016 |
| 50 | 1 ½ | 40 | **161 482 914** | 0.032 |
| 63 | 2 | 50 | **161 482 915** | 0.065 |

## Body (1)

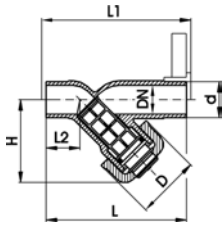
| d [mm] | Inch | DN [mm] | PVC-U Code | kg |
|---|---|---|---|---|
| 90 | 3 | 80 | **161 480 158** | 1.790 |

# Strainers

## Line strainer type 305 ABS
## With solvent cement spigots metric

**Model:**

- Protects valves, pumps, etc. from becoming soiled
- Easy dismantling for cleaning the screens
- Cylindrical screen must be ordered separately
- Overall length EN 558
- Screen in stainless steel operable temperature range up -40°C to +60°C
- Screen in PVC-U operable temperature range up 0°C to +60°C




| d [mm] | DN [mm] | PN | EPDM Code | kg | D [mm] | L [mm] | L1 [mm] | L2 [mm] | H [mm] |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | 10 | **169 305 302** | 0.080 | 48 | 124 | 130 | 28 | 65 |
| 25 | 20 | 10 | **169 305 303** | 0.120 | 54 | 144 | 150 | 37 | 76 |
| 32 | 25 | 10 | **169 305 304** | 0.180 | 62 | 154 | 160 | 37 | 90 |
| 40 | 32 | 10 | **169 305 305** | 0.280 | 71 | 174 | 180 | 44 | 104 |
| 50 | 40 | 10 | **169 305 306** | 0.470 | 88 | 194 | 200 | 48 | 124 |
| 63 | 50 | 10 | **169 305 307** | 0.780 | 103 | 224 | 230 | 60 | 148 |

## Cylindrical screen type 305 PVC-U
## Screen perforations 0.5 mm

- For line strainers Type 305

| d [mm] | Inch | DN [mm] | kv-value (Δp=1 bar) [l/min] | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|---|---|
| 20 | ½ | 15 | 35 | **161 305 339** | 0.005 | 14 | 39 |
| 25 | ¾ | 20 | 65 | **161 305 389** | 0.007 | 18 | 48 |
| 32 | 1 | 25 | 90 | **161 305 439** | 0.003 | 24 | 60 |
| 40 | 1 ¼ | 32 | 155 | **161 305 489** | 0.004 | 30 | 71 |
| 50 | 1 ½ | 40 | 225 | **161 305 539** | 0.007 | 38 | 87 |
| 63 | 2 | 50 | 370 | **161 305 589** | 0.010 | 48 | 106 |
| 75 | 2 ½ | 65 | 575 | **161 305 639** | 0.012 | 61 | 100 |
| 90 | 3 | 80 | 955 | **161 305 689** | 0.017 | 73 | 118 |

## Cylindrical screen type 305 PVC-U
## Screen perforations 0.8 mm

- For line strainers Type 305

| d [mm] | DN [mm] | kv-value (Δp=1 bar) [l/min] | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 20 | 15 | 35 | **161 305 338** | 0.005 | 14 | 39 |
| 25 | 20 | 65 | **161 305 388** | 0.007 | 18 | 48 |
| 32 | 25 | 90 | **161 305 438** | 0.003 | 24 | 60 |
| 40 | 32 | 155 | **161 305 488** | 0.004 | 30 | 71 |
| 50 | 40 | 225 | **161 305 538** | 0.006 | 38 | 87 |
| 63 | 50 | 370 | **161 305 588** | 0.009 | 48 | 106 |
| 75 | 65 | 575 | **161 305 638** | 0.012 | 61 | 100 |
| 90 | 80 | 955 | **161 305 688** | 0.010 | 73 | 118 |

## Cylindrical screen type 305 PVC-U
## Screen perforations 1.4 mm

| d [mm] | DN [mm] | kv-value (Δp=1 bar) [l/min] | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 20 | 15 | 35 | **161 305 337** | 0.005 | 14 | 39 |
| 25 | 20 | 65 | **161 305 387** | 0.003 | 18 | 48 |
| 32 | 25 | 90 | **161 305 437** | 0.003 | 24 | 60 |
| 40 | 32 | 155 | **161 305 487** | 0.004 | 30 | 71 |
| 50 | 40 | 225 | **161 305 537** | 0.006 | 38 | 87 |
| 63 | 50 | 370 | **161 305 587** | 0.008 | 48 | 106 |
| 75 | 65 | 575 | **161 305 637** | 0.011 | 61 | 100 |
| 90 | 80 | 955 | **161 305 687** | 0.015 | 73 | 118 |

## Cylindrical screen type 305 PVC-U
## Screen perforations 2.2 mm

| d [mm] | DN [mm] | kv-value (Δp=1 bar) [l/min] | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 20 | 15 | 35 | **161 305 336** | 0.005 | 14 | 39 |
| 25 | 20 | 65 | **161 305 386** | 0.003 | 18 | 48 |
| 32 | 25 | 90 | **161 305 436** | 0.003 | 24 | 60 |
| 40 | 32 | 155 | **161 305 486** | 0.003 | 30 | 71 |
| 50 | 40 | 225 | **161 305 536** | 0.005 | 38 | 87 |
| 63 | 50 | 370 | **161 305 586** | 0.008 | 48 | 106 |
| 75 | 65 | 575 | **161 305 636** | 0.010 | 61 | 100 |
| 90 | 80 | 955 | **161 305 686** | 0.013 | 73 | 118 |

## Screen stainless steel
## Screen perforation 0.5 mm

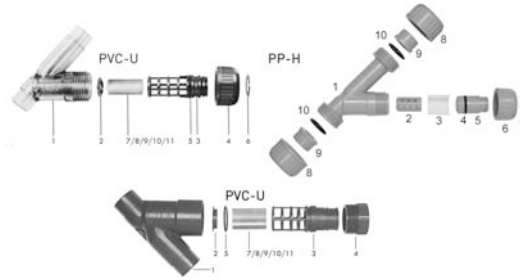
**Model:**

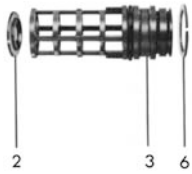
- Stainless Steel A4 Quality (AISI 316)
- For line strainers Type 305

| d [mm] | DN [mm] | kv-value (Δp=1 bar) [l/min] | Code | kg | D [mm] | L [mm] |
|---|---|---|---|---|---|---|
| 20 | 15 | 35 | **161 486 100** | 0.002 | 14 | 39 |
| 25 | 20 | 60 | **161 486 101** | 0.004 | 18 | 48 |
| 32 | 25 | 85 | **161 486 102** | 0.006 | 24 | 60 |
| 40 | 32 | 130 | **161 486 103** | 0.009 | 30 | 71 |
| 50 | 40 | 200 | **161 486 104** | 0.014 | 38 | 87 |
| 63 | 50 | 330 | **161 486 105** | 0.022 | 48 | 106 |
| 75 | 65 | 460 | **161 486 106** | 0.026 | 61 | 100 |
| 90 | 80 | 665 | **161 486 107** | 0.036 | 73 | 118 |

# Spare parts line strainer

## Spare parts line strainer type 305/306




### Screen set

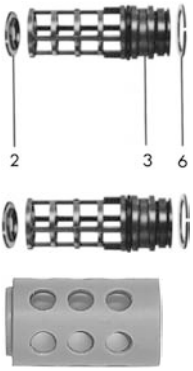
**Model:**

- Screen set PVC-U DN10-DN50 consisting of: screen (3), screen support ring (2) and circlip (6), PVC-U DN65-DN80: screen (3) and screen support ring (2). PP-H DN15-DN50: screen basket compl. without screen (2) and circlip (7)

| d [mm] | Inch | DN [mm] | PVC-U Code | PP-H Code | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **161 483 126** | **167 305 001** | 0.110 |
| 25 | ¾ | 20 | **161 483 127** | **167 305 002** | 0.070 |
| 32 | 1 | 25 | **161 483 128** | **167 305 003** | 0.255 |
| 40 | 1 ¼ | 32 | **161 483 129** | **167 305 004** | 0.135 |
| 50 | 1 ½ | 40 | **161 483 130** | **167 305 005** | 0.140 |
| 63 | 2 | 50 | **161 483 131** | **167 305 006** | 0.140 |
| 75 | 2 ½ | 65 | **161 483 132** | | 0.490 |
| 90 | 3 | 80 | **161 483 133** | | 0.390 |

### Body (1)

| d [mm] | Inch | DN [mm] | ABS Code |
|---|---|---|---|
| 20 | ½ | 15 | **169 480 600** |
| 25 | ¾ | 20 | **169 480 601** |
| 32 | 1 | 25 | **169 480 602** |
| 40 | 1 ¼ | 32 | **169 480 603** |
| 50 | 1 ½ | 40 | **169 480 604** |
| 63 | 2 | 50 | **169 480 605** |




## Screen cage

**Model:**

- Screen cage in PVC-U (3) and PP-H (2)

| d [mm] | Inch | DN [mm] | PVC-U Code | PVC-C Code | PP-H Code | kg |
|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **161 305 303** | **163 481 102** | **167 305 020** | 0.005 |
| 25 | ¾ | 20 | **161 305 353** | **163 481 103** | **167 305 021** | 0.007 |
| 32 | 1 | 25 | **161 305 403** | **163 481 104** | **167 305 022** | 0.003 |
| 40 | 1 ¼ | 32 | **161 305 453** | **163 481 105** | **167 305 023** | 0.004 |
| 50 | 1 ½ | 40 | **161 305 503** | **163 481 106** | **167 305 024** | 0.005 |
| 63 | 2 | 50 | **161 305 553** | **163 481 107** | **167 305 025** | 0.010 |
| 75 | 2 ½ | 65 | **161 305 603** | | | 0.309 |
| 90 | 3 | 80 | **161 305 653** | | | 0.372 |

## Screen cage bracket

**Model:**

- Only for the version in PP-H available

| d [mm] | Inch | DN [mm] | PP-H Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **167 305 040** | 0.018 |
| 25 | ¾ | 20 | **167 305 041** | 0.024 |
| 32 | 1 | 25 | **167 305 042** | 0.035 |
| 40 | 1 ¼ | 32 | **167 305 043** | 0.055 |
| 50 | 1 ½ | 40 | **167 305 044** | 0.088 |
| 63 | 2 | 50 | **167 305 045** | 0.132 |

## Valve end metric

**Model:**

- Only for the version in PP-H available

| d [mm] | Inch | DN [mm] | fusion socket PP-H Code | butt fusion spigot IR PP-H SDR11 Code | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **727 600 106** | **727 608 506** | 0.010 |
| 25 | ¾ | 20 | **727 600 107** | **727 608 507** | 0.017 |
| 32 | 1 | 25 | **727 600 108** | **727 608 508** | 0.024 |
| 40 | 1 ¼ | 32 | **727 600 109** | **727 608 509** | 0.041 |
| 50 | 1 ½ | 40 | **727 600 110** | **727 608 510** | 0.054 |
| 63 | 2 | 50 | **727 600 111** | **727 608 511** | 0.092 |

## Valve nut

**Model:**

- Union nut PVC-U DN10-DN50 (4), PP-H (6, 8)

| d [mm] | Inch | DN [mm] | Cap nut ABS Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **169 480 609** | 0.025 |
| 25 | ¾ | 20 | **169 480 610** | 0.018 |
| 32 | 1 | 25 | **169 480 611** | 0.030 |
| 40 | 1 ¼ | 32 | **169 480 612** | 0.035 |
| 50 | 1 ½ | 40 | **169 480 613** | 0.064 |
| 63 | 2 | 50 | **169 480 614** | 0.110 |

## Body seal

**Model:**

- Body seal vor PVC-U (5), PP-H (10)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **748 410 006** | 0.001 |
| 25 | ¾ | 20 | **748 410 001** | 0.002 |
| 32 | 1 | 25 | **748 410 007** | 0.002 |
| 40 | 1 ¼ | 32 | **748 410 002** | 0.003 |
| 50 | 1 ½ | 40 | **748 410 003** | 0.004 |
| 63 | 2 | 50 | **748 410 012** | 0.004 |
| 75 | 2 ½ | 65 | **748 410 013** | 0.006 |
| 90 | 3 | 80 | **748 410 014** | 0.007 |

## Screen perforation

**Model:**

- For PVC-U (7), PP-H (3)
- Stainless Steel A4 Quality (AISI 316)

| d [mm] | Inch | DN [mm] | PVC-U 0.5mm Code | PVC-U 0.8mm Code | PVC-U 1.4mm Code | PVC-U 2.2mm Code |
|---|---|---|---|---|---|---|
| 20 | ½ | 15 | **161 305 339** | **161 305 338** | **161 305 337** | **161 305 336** |
| 25 | ¾ | 20 | **161 305 389** | **161 305 388** | **161 305 387** | **161 305 386** |
| 32 | 1 | 25 | **161 305 439** | **161 305 438** | **161 305 437** | **161 305 436** |
| 40 | 1 ¼ | 32 | **161 305 489** | **161 305 488** | **161 305 487** | **161 305 486** |
| 50 | 1 ½ | 40 | **161 305 539** | **161 305 538** | **161 305 537** | **161 305 536** |
| 63 | 2 | 50 | **161 305 589** | **161 305 588** | **161 305 587** | **161 305 586** |
| 75 | 2 ½ | 65 | **161 305 639** | **161 305 638** | **161 305 637** | **161 305 636** |
| 90 | 3 | 80 | **161 305 689** | **161 305 688** | **161 305 687** | **161 305 686** |

| d [mm] | Inch | DN [mm] | PP-H Code | stainless steel 0.5mm Code | kg |
|---|---|---|---|---|---|
| 20 | ½ | 15 | **167 305 030** | **161 486 100** | 0.002 |
| 25 | ¾ | 20 | **167 305 031** | **161 486 101** | 0.004 |
| 32 | 1 | 25 | **167 305 032** | **161 486 102** | 0.006 |
| 40 | 1 ¼ | 32 | **167 305 033** | **161 486 103** | 0.009 |
| 50 | 1 ½ | 40 | **167 305 034** | **161 486 104** | 0.014 |
| 63 | 2 | 50 | **167 305 035** | **161 486 105** | 0.022 |
| 75 | 2 ½ | 65 | | **161 486 106** | 0.026 |
| 90 | 3 | 80 | | **161 486 107** | 0.036 |

## Plug (4)

**Model:**

- Only for PVC-U DN65-DN80

| d [mm] | Inch | DN [mm] | PVC-U Code | kg |
|---|---|---|---|---|
| 75 | 2 ½ | 65 | **161 305 604** | 0.200 |
| 90 | 3 | 80 | **161 305 654** | 0.265 |

## Circlip (7)

**Model:**

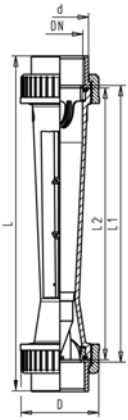
- Only for the version in PP-H available

| d [mm] | Inch | DN [mm] | PP-H Code | kg |
|---|---|---|---|---|
| 20 | ½ | 15 | **161 482 017** | 0.003 |
| 25 | ¾ | 20 | **161 482 018** | 0.003 |
| 32 | 1 | 25 | **161 482 019** | 0.005 |
| 40 | 1 ¼ | 32 | **161 482 020** | 0.003 |
| 50 | 1 ½ | 40 | **161 482 021** | 0.003 |
| 63 | 2 | 50 | **161 482 022** | 0.004 |

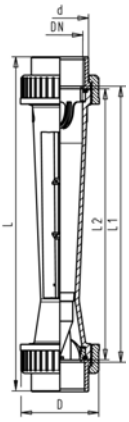
# Variable area flow meters

## Variable area flow meters
## Float in PVDF without magnet
## With solvent cement sockets ABS BS Inch

| Scale range [l/h] | d [inch] | DN [mm] | Taper tube in Polyamid O-rings in EPDM Code | Taper tube in Polysulfone O-rings in EPDM Code |
|---|---|---|---|---|
| 50 - 500 | 1 | 25 | **198 802 814** | **198 802 815** |
| 100 - 1000 | 1 | 25 | **198 802 816** | **198 802 817** |
| 300 - 3000 | 1 ½ | 40 | **198 802 818** | **198 802 819** |
| 600 - 6000 | 1 ½ | 40 | **198 802 820** | **198 802 821** |
| 1000 - 10000 | 2 | 50 | **198 802 822** | **198 802 823** |
| 1500 - 15000 | 2 | 50 | **198 802 824** | **198 802 825** |




| Scale range [l/h] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] |
|---|---|---|---|---|---|
| 50 - 500 | 58 | 385 | 341 | 335 | 1 ½ |
| 100 - 1000 | 58 | 385 | 341 | 335 | 1 ½ |
| 300 - 3000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 600 - 6000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 1000 - 10000 | 101 | 417 | 341 | 335 | 2 ¾ |
| 1500 - 15000 | 101 | 417 | 341 | 335 | 2 ¾ |




## Variable area flow meters
## Float in PVDF with magnet
## With solvent cement sockets ABS BS Inch

**Model:**

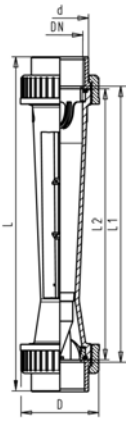
- Suitable limit switches see accessories for variable area flow meters

| Scale range [l/h] | d [inch] | DN [mm] | Taper tube in Polyamid O-rings in EPDM Code | Taper tube in Polysulfone O-rings in EPDM Code |
|---|---|---|---|---|
| 50 - 500 | 1 | 25 | **198 802 826** | **198 802 827** |
| 100 - 1000 | 1 | 25 | **198 802 828** | **198 802 829** |
| 300 - 3000 | 1 ½ | 40 | **198 802 830** | **198 802 831** |
| 600 - 6000 | 1 ½ | 40 | **198 802 832** | **198 802 833** |
| 1000 - 10000 | 2 | 50 | **198 802 834** | **198 802 835** |
| 1500 - 15000 | 2 | 50 | **198 802 836** | **198 802 837** |

| Scale range [l/h] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] |
|---|---|---|---|---|---|
| 50 - 500 | 58 | 385 | 341 | 335 | 1 ½ |
| 100 - 1000 | 58 | 385 | 341 | 335 | 1 ½ |
| 300 - 3000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 600 - 6000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 1000 - 10000 | 101 | 417 | 341 | 335 | 2 ¾ |
| 1500 - 15000 | 101 | 417 | 341 | 335 | 2 ¾ |

## Variable area flow meters
## Float in PVDF without magnet
## With solvent cement sockets ABS metric

| Scale range [l/h] | d [mm] | DN [mm] | Taper tube in Polyamid O-rings in EPDM Code | Taper tube in Polysulfone O-rings in EPDM Code |
|---|---|---|---|---|
| 50 - 500 | 32 | 25 | **198 807 120** | **198 807 126** |
| 100 - 1000 | 32 | 25 | **198 807 121** | **198 807 127** |
| 300 - 3000 | 50 | 40 | **198 807 122** | **198 807 128** |
| 600 - 6000 | 50 | 40 | **198 807 123** | **198 807 129** |
| 1000 - 10000 | 63 | 50 | **198 807 124** | **198 807 130** |
| 1500 - 15000 | 63 | 50 | **198 807 125** | **198 807 131** |



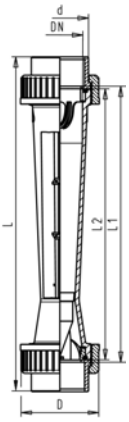

| Scale range [l/h] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] |
|---|---|---|---|---|---|
| 50 - 500 | 58 | 385 | 341 | 335 | 1 ½ |
| 100 - 1000 | 58 | 385 | 341 | 335 | 1 ½ |
| 300 - 3000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 600 - 6000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 1000 - 10000 | 101 | 417 | 341 | 335 | 2 ¾ |
| 1500 - 15000 | 101 | 417 | 341 | 335 | 2 ¾ |

## Variable area flow meters
## Float in PVDF with magnet
## With solvent cement sockets ABS metric

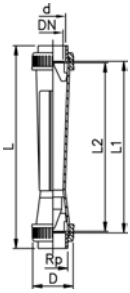
**Model:**

- Suitable limit switches see accessories for variable area flow meters

| Scale range [l/h] | d [mm] | DN [mm] | Taper tube in Polyamid O-rings in EPDM Code | Taper tube in Polysulfone O-rings in EPDM Code |
|---|---|---|---|---|
| 50 - 500 | 32 | 25 | **198 807 132** | **198 807 138** |
| 100 - 1000 | 32 | 25 | **198 807 133** | **198 807 139** |
| 300 - 3000 | 50 | 40 | **198 807 134** | **198 807 140** |
| 600 - 6000 | 50 | 40 | **198 807 135** | **198 807 141** |
| 1000 - 10000 | 63 | 50 | **198 807 136** | **198 807 142** |
| 1500 - 15000 | 63 | 50 | **198 807 137** | **198 807 143** |




| Scale range [l/h] | D [mm] | L [mm] | L1 [mm] | L2 [mm] | G [inch] |
|---|---|---|---|---|---|
| 50 - 500 | 58 | 385 | 341 | 335 | 1 ½ |
| 100 - 1000 | 58 | 385 | 341 | 335 | 1 ½ |
| 300 - 3000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 600 - 6000 | 83 | 403 | 341 | 335 | 2 ¼ |
| 1000 - 10000 | 101 | 417 | 341 | 335 | 2 ¾ |
| 1500 - 15000 | 101 | 417 | 341 | 335 | 2 ¾ |

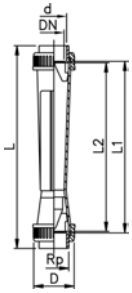



## Short Version
## Float in PVDF without magnet
## With solvent cement sockets ABS BS Inch

**Model:**

- Union nuts and valve ends in other materials on request

| Type | d [inch] | DN [mm] | Scale range [l/h] | Taper tube in Polysulfone O-rings in EPDM Code | D [mm] | L [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| SK50 | ⅜ | 10 | 2.5 - 25 | **198 807 040** | 35 | 199 | 171 | 165 |
| SK51 | ⅜ | 10 | 5 - 50 | **198 807 041** | 35 | 199 | 171 | 165 |
| SK52 | ⅜ | 10 | 10 - 100 | **198 807 042** | 35 | 199 | 171 | 165 |
| SK60 | ½ | 15 | 8 - 80 | **198 807 043** | 43 | 223 | 191 | 185 |
| SK61 | ½ | 15 | 15 - 150 | **198 807 044** | 43 | 223 | 191 | 185 |
| SK62 | ½ | 15 | 20 - 200 | **198 807 045** | 43 | 223 | 191 | 185 |
| SK70 | 1 | 25 | 15 - 150 | **198 807 046** | 60 | 250 | 206 | 200 |
| SK71 | 1 | 25 | 30 - 300 | **198 807 047** | 60 | 250 | 206 | 200 |
| SK72 | 1 | 25 | 50 - 500 | **198 807 048** | 60 | 250 | 206 | 200 |
| SK73 | 1 | 25 | 100 - 1000 | **198 807 049** | 60 | 250 | 206 | 200 |

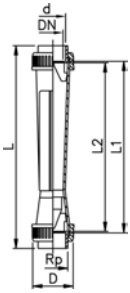



## Short Version
## Float in PVDF with magnet
## With solvent cement sockets ABS BS Inch

**Model:**

- Suitable limit switches see accessories for variable area flow meters
- Union nuts and valve ends in other materials on request

| Type | d [inch] | DN [mm] | Scale range [l/h] | Taper tube in Polysulfone O-rings in EPDM Code | D [mm] | L [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| SK500 | ⅜ | 10 | 2.5 - 25 | **198 807 050** | 35 | 199 | 171 | 165 |
| SK510 | ⅜ | 10 | 5 - 50 | **198 807 051** | 35 | 199 | 171 | 165 |
| SK520 | ⅜ | 10 | 10 - 100 | **198 807 052** | 35 | 199 | 171 | 165 |
| SK600 | ½ | 15 | 8 - 80 | **198 807 053** | 43 | 223 | 191 | 185 |
| SK610 | ½ | 15 | 15 - 150 | **198 807 054** | 43 | 223 | 191 | 185 |
| SK620 | ½ | 15 | 20 - 200 | **198 807 055** | 43 | 223 | 191 | 185 |
| SK700 | 1 | 25 | 15 - 150 | **198 807 056** | 60 | 250 | 206 | 200 |
| SK710 | 1 | 25 | 30 - 300 | **198 807 057** | 60 | 250 | 206 | 200 |
| SK720 | 1 | 25 | 50 - 500 | **198 807 058** | 60 | 250 | 206 | 200 |
| SK730 | 1 | 25 | 100 - 1000 | **198 807 059** | 60 | 250 | 206 | 200 |

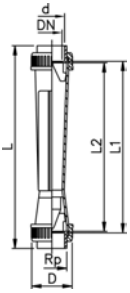



## Short Version
## Float in PVDF without magnet
## With solvent cement sockets ABS metric

**Model:**

- Union nuts and valve ends in other materials on request

| Type | d [mm] | DN [mm] | Scale range [l/h] | Taper tube in Polysulfone O-rings in EPDM Code | D [mm] | L [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| SK50 | 16 | 10 | 2.5 - 25 | **198 807 144** | 35 | 199 | 171 | 165 |
| SK51 | 16 | 10 | 5 - 50 | **198 807 145** | 35 | 199 | 171 | 165 |
| SK52 | 16 | 10 | 10 - 100 | **198 807 146** | 35 | 199 | 171 | 165 |
| SK60 | 20 | 15 | 8 - 80 | **198 807 147** | 43 | 223 | 191 | 185 |
| SK61 | 20 | 15 | 15 - 150 | **198 807 148** | 43 | 223 | 191 | 185 |
| SK62 | 20 | 15 | 20 - 200 | **198 807 149** | 43 | 223 | 191 | 185 |
| SK70 | 32 | 25 | 15 - 150 | **198 807 150** | 60 | 250 | 206 | 200 |
| SK71 | 32 | 25 | 30 - 300 | **198 807 151** | 60 | 250 | 206 | 200 |
| SK72 | 32 | 25 | 50 - 500 | **198 807 152** | 60 | 250 | 206 | 200 |
| SK73 | 32 | 25 | 100 - 1000 | **198 807 153** | 60 | 250 | 206 | 200 |

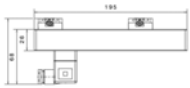



## Short Version
## Float in PVDF with magnet
## With solvent cement sockets ABS metric

**Model:**

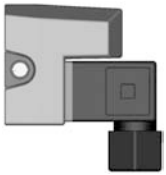
- Suitable limit switches see accessories for variable area flow meters
- Union nuts and valve ends in other materials on request

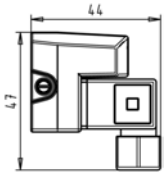
| Type | d [mm] | DN [mm] | Scale range [l/h] | Taper tube in Polysulfone O-rings in EPDM Code | D [mm] | L [mm] | L1 [mm] | L2 [mm] |
|---|---|---|---|---|---|---|---|---|
| SK500 | 16 | 10 | 2.5 - 25 | **198 807 154** | 35 | 199 | 171 | 165 |
| SK510 | 16 | 10 | 5 - 50 | **198 807 155** | 35 | 199 | 171 | 165 |
| SK520 | 16 | 10 | 10 - 100 | **198 807 156** | 35 | 199 | 171 | 165 |
| SK600 | 20 | 15 | 8 - 80 | **198 807 157** | 43 | 223 | 191 | 185 |
| SK610 | 20 | 15 | 15 - 150 | **198 807 158** | 43 | 223 | 191 | 185 |
| SK620 | 20 | 15 | 20 - 200 | **198 807 159** | 43 | 223 | 191 | 185 |
| SK700 | 32 | 25 | 15 - 150 | **198 807 160** | 60 | 250 | 206 | 200 |
| SK710 | 32 | 25 | 30 - 300 | **198 807 161** | 60 | 250 | 206 | 200 |
| SK720 | 32 | 25 | 50 - 500 | **198 807 162** | 60 | 250 | 206 | 200 |
| SK730 | 32 | 25 | 100 - 1000 | **198 807 163** | 60 | 250 | 206 | 200 |



## Accessories
## 4-20 mA sensor
## For type 335 and type 350

| Type | d [mm] | DN [mm] | Corresponds to water scale [l/h] | Code | kg |
|---|---|---|---|---|---|
| GK 15 | 32 | 25 | 50-500 | **198 335 962** | 0.150 |
| GK 15 | 32 | 25 | 100-1000 | **198 335 963** | 0.150 |
| GK 15 | 40 | 32 | 150-1500 | **198 335 964** | 0.150 |
| GK 15 | 40 | 32 | 250-2500 | **198 335 965** | 0.150 |
| GK 15 | 50 | 40 | 200-2000 | **198 335 966** | 0.150 |
| GK 15 | 50 | 40 | 300-3000 | **198 335 967** | 0.150 |
| GK 15 | 50 | 40 | 600-6000 | **198 335 968** | 0.150 |
| GK 15 | 63 | 50 | 600-6000 | **198 335 969** | 0.150 |
| GK 15 | 63 | 50 | 1000-10000 | **198 335 991** | 0.150 |
| GK 15 | 63 | 50 | 1500-15000 | **198 335 992** | 0.150 |
| GK 15 | 75 | 65 | 2000-20000 | **198 335 993** | 0.150 |
| GK 15 | 75 | 65 | 3000-30000 | **198 335 994** | 0.150 |
| GK 15 | 75 | 65 | 8000-60000 | **198 335 995** | 0.150 |



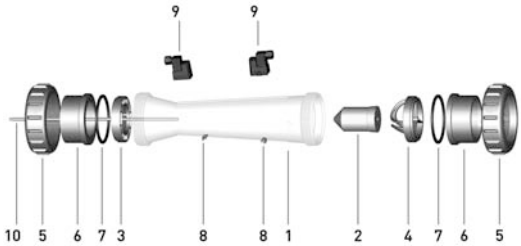



## Accessories
## Limit contacts GK10/GK11
## For type 335/350 and short version

| Type | Code | kg | |
|---|---|---|---|
| GK10 (min.) | **198 335 960** | 0.033 | |
| GK11 (max.) | **198 335 961** | 0.033 | |

# Spare parts variable area flow meters

## Variable area flow meter type 335




### Taper tube with water scale (1)

- PVC-U transparent

| Scale range [l/h] | d [mm] | Inch | DN [mm] | PVC-U transparent Code | Polyamid Code |
|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 055** | **198 335 070** |
| 100 - 1000 | 32 | 1 | 25 | **198 335 056** | **198 335 071** |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 057** | **198 335 072** |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 058** | **198 335 073** |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 059** | **198 335 074** |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 060** | **198 335 075** |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 061** | **198 335 076** |
| 600 - 6000 | 63 | 2 | 50 | **198335062*** | **198 335 077** |
| 1000 - 10000 | 63 | 2 | 50 | **198335063*** | **198 335 078** |
| 1500 - 15000 | 63 | 2 | 50 | **198335064*** | **198 335 079** |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198335065*** | **198 335 080** |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198335066*** | **198 335 081** |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198335067*** | **198 335 082** |

| Scale range [l/h] | d [mm] | Inch | DN [mm] | Polysulfon Code | kg |
|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 085** | 0.214 |
| 100 - 1000 | 32 | 1 | 25 | **198 335 086** | 0.214 |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 087** | 0.290 |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 088** | 0.290 |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 089** | 0.350 |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 090** | 0.350 |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 091** | 0.350 |
| 600 - 6000 | 63 | 2 | 50 | **198 335 092** | 0.453 |
| 1000 - 10000 | 63 | 2 | 50 | **198 335 093** | 0.453 |
| 1500 - 15000 | 63 | 2 | 50 | **198 335 094** | 0.453 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 095** | 0.622 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 096** | 0.622 |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198 335 097** | 0.622 |

## Taper tube without scale (1)

- PVC-U transparent

| Scale range [l/h] | d [mm] | Inch | DN [mm] | PVC-U transparent Code | Polyamid Code |
|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 255** | **198 335 270** |
| 100 - 1000 | 32 | 1 | 25 | **198 335 256** | **198 335 271** |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 257** | **198 335 272** |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 258** | **198 335 273** |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 259** | **198 335 274** |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 260** | **198 335 275** |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 261** | **198 335 276** |
| 600 - 6000 | 63 | 2 | 50 | **198335262*** | **198 335 277** |
| 1000 - 10000 | 63 | 2 | 50 | **198335263*** | **198 335 278** |
| 1500 - 15000 | 63 | 2 | 50 | **198335264*** | **198 335 279** |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198335265*** | **198 335 280** |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198335266*** | **198 335 281** |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198335267*** | **198 335 282** |

| Scale range [l/h] | d [mm] | Inch | DN [mm] | Polysulfon Code | kg |
|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 285** | 0.214 |
| 100 - 1000 | 32 | 1 | 25 | **198 335 286** | 0.214 |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 287** | 0.290 |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 288** | 0.290 |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 289** | 0.350 |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 290** | 0.350 |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 291** | 0.350 |
| 600 - 6000 | 63 | 2 | 50 | **198 335 292** | 0.453 |
| 1000 - 10000 | 63 | 2 | 50 | **198 335 293** | 0.453 |
| 1500 - 15000 | 63 | 2 | 50 | **198 335 294** | 0.453 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 295** | 0.622 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 296** | 0.622 |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198 335 297** | 0.622 |

## Insert PVDF (3,4)

| Scale range [l/h] | d [mm] | Inch | DN [mm] | top (4) Code | bottom (3) Code | kg |
|---|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 970** | **198 335 977** | 0.012 |
| 100 - 1000 | 32 | 1 | 25 | **198 335 970** | **198 335 977** | 0.012 |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 971** | **198 335 978** | 0.019 |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 971** | **198 335 978** | 0.019 |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 972** | **198 335 979** | 0.024 |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 972** | **198 335 979** | 0.024 |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 972** | **198 335 979** | 0.024 |
| 600 - 6000 | 63 | 2 | 50 | **198 335 973** | **198 335 980** | 0.042 |
| 1000 - 10000 | 63 | 2 | 50 | **198 335 973** | **198 335 980** | 0.042 |
| 1500 - 15000 | 63 | 2 | 50 | **198 335 974** | **198 335 982** | 0.042 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 975** | **198 335 981** | 0.059 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 975** | **198 335 981** | 0.059 |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198 335 975** | **198 335 981** | 0.059 |

## Float PVDF (2)

| Scale range [l/h] | d [mm] | Inch | DN [mm] | Without magnet Code | With magnet (bistabil) Code | kg |
|---|---|---|---|---|---|---|
| 50 - 500 | 32 | 1 | 25 | **198 335 455** | **198 335 470** | 0.150 |
| 100 - 1000 | 32 | 1 | 25 | **198 335 455** | **198 335 470** | 0.150 |
| 150 - 1500 | 40 | 1 ¼ | 32 | **198 335 455** | **198 335 470** | 0.150 |
| 250 - 2500 | 40 | 1 ¼ | 32 | **198 335 455** | **198 335 470** | 0.150 |
| 200 - 2000 | 50 | 1 ½ | 40 | **198 335 456** | **198 335 471** | 0.328 |
| 300 - 3000 | 50 | 1 ½ | 40 | **198 335 457** | **198 335 471** | 0.328 |
| 600 - 6000 | 50 | 1 ½ | 40 | **198 335 457** | **198 335 471** | 0.328 |
| 600 - 6000 | 63 | 2 | 50 | **198 335 457** | **198 335 471** | 0.328 |
| 1000 - 10000 | 63 | 2 | 50 | **198 335 457** | **198 335 471** | 0.328 |
| 1500 - 15000 | 63 | 2 | 50 | **198 335 458** | **198 335 472** | 0.328 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 459** | **198 335 473** | 0.920 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 459** | **198 335 473** | 0.920 |
| 8000 - 60000 | 75 | 2 ½ | 65 | **198 335 460** | **198 335 474** | 0.746 |

## Guiding rod (10)

**Model:**

- Only for DN50 (1'500 - 15'000 l/h) and DN65 (all metering ranges)

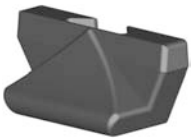
| Scale range [l/h] | d [mm] | Inch | DN [mm] | Peek Code | Stainless steel Code | kg |
|---|---|---|---|---|---|---|
| 1500 - 15000 | 63 | 2 | 50 | **198 335 985** | **198 335 098** | 0.013 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 985** | **198 335 098** | 0.013 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 985** | **198 335 098** | 0.013 |
| 8000 - 80000 | 75 | 2 ½ | 65 | **198 335 985** | **198 335 098** | 0.013 |

## Insert guiding rod PVDF (for 10)

**Model:**

- Only for DN50 (1'500 - 15'000 l/h) and DN65 (all metering ranges)

| Scale range [l/h] | d [mm] | Inch | DN [mm] | Insert guiding rod Code | kg |
|---|---|---|---|---|---|
| 1500 - 15000 | 63 | 2 | 50 | **198 335 986** | 0.020 |
| 2000 - 20000 | 75 | 2 ½ | 65 | **198 335 987** | 0.020 |
| 3000 - 30000 | 75 | 2 ½ | 65 | **198 335 987** | 0.020 |
| 8000 - 80000 | 75 | 2 ½ | 65 | **198 335 987** | 0.020 |

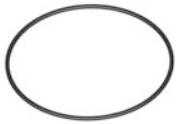


## Flow value indicator PS (8)

**Model:**

- For all dimensions type 335/350

| d [mm] | Inch | DN [mm] | Flow value indicator Code | kg |
|---|---|---|---|---|
| 32 | 1 | 25 | **198 335 990** | 0.001 |
| 40 | 1 ¼ | 32 | **198 335 990** | 0.001 |
| 50 | 1 ½ | 40 | **198 335 990** | 0.001 |
| 63 | 2 | 50 | **198 335 990** | 0.001 |
| 75 | 2 ½ | 65 | **198 335 990** | 0.001 |



## O-rings (7)

| d [mm] | Inch | DN [mm] | EPDM Code | kg |
|---|---|---|---|---|
| 32 | 1 | 25 | **748 410 008** | 0.001 |
| 40 | 1 ¼ | 32 | **748 410 009** | 0.003 |
| 50 | 1 ½ | 40 | **748 410 010** | 0.004 |
| 63 | 2 | 50 | **748 410 011** | 0.005 |
| 75 | 2 ½ | 65 | **748 410 014** | 0.007 |

## Union nut (5)

Union nut not useable for the special version with taper tube in PVDF

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 32 | 1 | 25 | **729 690 408** | 0.024 |
| 40 | 1 ¼ | 32 | **729 690 409** | 0.049 |
| 50 | 1 ½ | 40 | **729 690 410** | 0.070 |
| 63 | 2 | 50 | **729 690 411** | 0.101 |
| 75 | 2 ½ | 65 | **-** | |

## Union end / Socket (6)

For DN65 PVDF only spigot

| d [mm] | Inch | DN [mm] | ABS Code | kg |
|---|---|---|---|---|
| 32 | 1 | 25 | **729 600 108** | 0.016 |
| 40 | 1 ¼ | 32 | **729 600 109** | 0.042 |
| 50 | 1 ½ | 40 | **729 600 110** | 0.045 |
| 63 | 2 | 50 | **729 600 111** | 0.084 |
| 75 | 2 ½ | 65 | **700 246 112** | 0.155 |

## Spare part for variable area flow meter SK50-SK73/SK500-SK730

### Short version taper tube Polysulfone

| Type | d [mm] | DN [mm] | Code | kg |
|---|---|---|---|---|
| SK 50 / 500 | 16 | 10 | **198 801 341** | 0.150 |
| SK 51 / 510 | 16 | 10 | **198 801 342** | 0.150 |
| SK 52 / 520 | 16 | 10 | **198 801 343** | 0.150 |
| SK 60 / 600 | 20 | 15 | **198 801 449** | 0.150 |
| SK 61 / 610 | 20 | 15 | **198 801 450** | 0.150 |
| SK 62 / 620 | 20 | 15 | **198 801 451** | 0.150 |
| SK 70 / 700 | 32 | 25 | **198 801 445** | 0.150 |
| SK 71 / 710 | 32 | 25 | **198 801 338** | 0.150 |
| SK 72 / 720 | 32 | 25 | **198 801 339** | 0.150 |
| SK 73 / 730 | 32 | 25 | **198 801 340** | 0.150 |

### Short version taper tube PVC-U transparent

| Type | d [mm] | DN [mm] | Code | kg |
|---|---|---|---|---|
| SK 50 / 500 | 16 | 10 | **198 803 790** | 0.040 |
| SK 51 / 510 | 16 | 10 | **198 803 791** | 0.150 |
| SK 52 / 520 | 16 | 10 | **198 803 792** | 0.150 |
| SK 60 / 600 | 20 | 15 | **198 803 793** | 0.060 |
| SK 61 / 610 | 20 | 15 | **198 803 794** | 0.060 |
| SK 62 / 620 | 20 | 15 | **198 803 795** | 0.300 |
| SK 70 / 700 | 32 | 25 | **198 803 796** | 0.127 |
| SK 71 / 710 | 32 | 25 | **198 803 797** | 0.150 |
| SK 72 / 720 | 32 | 25 | **198 803 798** | 0.120 |
| SK 73 / 730 | 32 | 25 | **198 803 799** | 0.120 |

### Short version float PVDF Without magnet

| Type | d [mm] | DN [mm] | Code | kg |
|---|---|---|---|---|
| SK 50 / 51 / 52 | 16 | 10 | **198 806 219** | 0.005 |
| SK 60 / 61 / 62 | 20 | 15 | **198 806 220** | 0.010 |
| SK 70 / 71 / 72 / 73 | 32 | 25 | **198 806 221** | 0.032 |

### Short version float PVDF With magnet bistable

| Type | d [mm] | DN [mm] | Code | kg |
|---|---|---|---|---|
| SK 500 / 510 / 520 | 16 | 10 | **198 806 222** | 0.005 |
| SK 600 / 610 / 620 | 20 | 15 | **198 806 223** | 0.010 |
| SK 700 / 710 / 720 / 730 | 32 | 25 | **198 806 224** | 0.032 |

### Short version float PTFE Without magnet

| Type | d [mm] | DN [mm] | Code | kg |
|---|---|---|---|---|
| SK 73 | 32 | 25 | **198 807 166** | 0.019 |

## Short version top insert PVDF

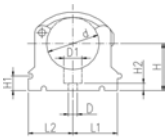
| Type | d [mm] | DN [mm] | Code | kg | |
|---|---|---|---|---|---|
| SK 50 / 500; 51 / 510; 52 / 520 | 16 | 10 | **198 807 188** | 0.010 | |
| SK 60 / 600; 61 / 610; 62 / 620 | 20 | 15 | **198 807 187** | 0.010 | |
| SK 70 / 700; 71 / 710; 72 / 720; 73 / 730 | 32 | 25 | **198 807 182** | 0.010 | |

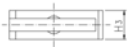
# Accessories

# Brackets

670610

## KLIP-IT pipe clip type 061 PP BS



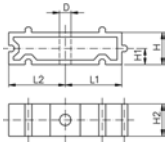

**Model:**

- 3/8" - 2": height designed for Ball Valve Type 546 and 543
- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- **Minimum order quantity: standard packaging SP**

| d [inch] | Code | kg | kg/m |
|---|---|---|---|
| ¼ | **167 061 054** | 0.003 | 0.003 |
| ⅜ | **167 061 055** | 0.007 | 0.007 |
| ½ | **167 061 056** | 0.007 | 0.007 |
| ¾ | **167 061 057** | 0.008 | 0.008 |
| 1 | **167 061 058** | 0.009 | 0.009 |
| 1 | **167 061 059** | 0.012 | 0.012 |
| 1 ½ | **167 061 060** | 0.022 | 0.022 |
| 2 | **167 061 061** | 0.030 | 0.030 |
| 2 ½ | **167 061 012** | 0.058 | 0.058 |
| 3 | **167 061 013** | 0.090 | 0.090 |
| 4 | **167 061 114** | 0.114 | 0.114 |
| 5 | **167 061 016** | 0.217 | 0.217 |

| d [inch] | D [mm] | D1 [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|
| ¼ | 5 | 8 | 11 | 14 | 21 | 10 | 6 | 12 | M5 |
| ⅜ | 6 | 10 | 14 | 17 | 23 | 10 | 6 | 16 | M5 |
| ½ | 6 | 10 | 17 | 19 | 25 | 10 | 6 | 16 | M5 |
| ¾ | 6 | 10 | 19 | 22 | 28 | 10 | 6 | 16 | M5 |
| 1 | 6 | 10 | 24 | 27 | 31 | 10 | 6 | 16 | M5 |
| 1 | 7 | 14 | 34 | 34 | 35 | 10 | 7 | 22 | M6 |
| 1 ½ | 7 | 14 | 37 | 37 | 40 | 10 | 7 | 22 | M6 |
| 2 | 9 | 17 | 45 | 45 | 52 | 10 | 10 | 25 | M8 |
| 2 ½ | 9 | 17 | 52 | 52 | 58 | 10 | 10 | 25 | M8 |
| 3 | 9 | 17 | 65 | 65 | 65 | 10 | 10 | 28 | M8 |
| 4 | 9 | 17 | 79 | 79 | 81 | 10 | 10 | 28 | M8 |
| 5 | 9 | 17 | 98 | 98 | 110 | 10 | 10 | 32 | M8 |

## KLIP-IT spacer type 061 PP

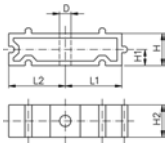



**Model:**

- For pipe clips Type 061/061H, PP black, UV resistant
- **Minimum order quantity: standard packaging SP**

| d [mm] | Inch [inch] | Code | kg | D [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 - 12 | ⅛ - ¼ | **167 061 153** | 0.003 | 5 | 11 | 14 | 20 | 10 | 12 | M4 |
| 16 | ⅜ | **167 061 155** | 0.006 | 6 | 14 | 17 | 20 | 10 | 16 | M5 |
| 20 | ½ | **167 061 156** | 0.006 | 6 | 17 | 19 | 20 | 10 | 16 | M5 |
| 25 | ¾ | **167 061 157** | 0.007 | 6 | 19 | 22 | 20 | 10 | 16 | M5 |
| 32 | 1 | **167 061 158** | 0.008 | 6 | 24 | 27 | 20 | 10 | 16 | M5 |
| 40 | 1 ¼ | **167 061 159** | 0.016 | 7 | 34 | 34 | 20 | 10 | 22 | M6 |
| 50 | 1 ½ | **167 061 160** | 0.017 | 7 | 37 | 37 | 20 | 10 | 22 | M6 |
| 63 | 2 | **167 061 161** | 0.024 | 9 | 45 | 45 | 20 | 10 | 25 | M8 |
| 75 | 2 ½ | **167 061 162** | 0.027 | 9 | 52 | 52 | 20 | 10 | 25 | M8 |
| 90 | 3 | **167 061 163** | 0.040 | 9 | 65 | 65 | 20 | 10 | 28 | M8 |

table continued next page

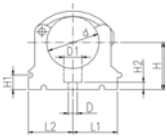



| d [mm] | Inch [inch] | Code | kg | D [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|---|
| 110 | 4 | **167 061 164** | 0.048 | 9 | 79 | 79 | 20 | 10 | 28 | M8 |
| 125 | 4 ½ | **167 061 165** | 0.059 | 9 | 88 | 88 | 20 | 10 | 32 | M8 |
| 140 | 5 | **167 061 166** | 0.065 | 9 | 98 | 98 | 20 | 10 | 32 | M8 |
| 160 | 6 | **167 061 167** | 0.074 | 9 | 109 | 109 | 20 | 10 | 32 | M8 |

## KLIP-IT pipe clip type 061 PP metric

**Model:**

- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- d16 - d63: Height designed for Ball Valve Type 546 and 543
- **Minimum order quantity: standard packagings SP**





| d [mm] | d [inch] | Code | kg |
|---|---|---|---|
| * 10 | | **167 061 003** | 0.003 |
| * 12 | | **167 061 004** | 0.003 |
| * 16 | | **167 061 035** | 0.006 |
| * 20 | | **167 061 036** | 0.008 |
| * 25 | | **167 061 037** | 0.009 |
| * 32 | | **167 061 038** | 0.012 |
| 40 | | **167 061 039** | 0.027 |
| 50 | | **167 061 040** | 0.031 |
| 63 | | **167 061 041** | 0.054 |
| 75 | 2 ½ | **167 061 012** | 0.058 |
| 90 | 3 | **167 061 013** | 0.090 |
| 110 | 4 | **167 061 014** | 0.114 |
| 125 | | **167 061 015** | 0.174 |
| 140 | 5 | **167 061 016** | 0.217 |
| 160 | | **167 061 017** | 0.237 |

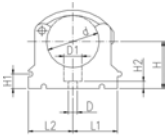
| d [mm] | D [mm] | D1 [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|
| * 10 | 5 | 8 | 11 | 14 | 20 | 10 | 6 | 12 | M4 |
| * 12 | 5 | 8 | 11 | 14 | 21 | 10 | 6 | 12 | M5 |
| * 16 | 6 | 11 | 14 | 17 | 27 | 10 | 6 | 16 | M5 |
| * 20 | 6 | 11 | 17 | 19 | 27 | 10 | 6 | 16 | M5 |
| * 25 | 6 | 11 | 19 | 22 | 30 | 10 | 6 | 16 | M5 |
| * 32 | 6 | 11 | 24 | 27 | 36 | 10 | 6 | 16 | M5 |
| 40 | 7 | 14 | 34 | 34 | 44 | 10 | 7 | 22 | M6 |
| 50 | 7 | 14 | 37 | 37 | 51 | 10 | 7 | 22 | M6 |
| 63 | 9 | 17 | 45 | 45 | 64 | 10 | 10 | 25 | M8 |
| 75 | 9 | 17 | 52 | 52 | 58 | 10 | 10 | 25 | M8 |
| 90 | 9 | 17 | 65 | 65 | 65 | 10 | 10 | 28 | M8 |
| 110 | 9 | 17 | 79 | 79 | 75 | 10 | 10 | 28 | M8 |
| 125 | 9 | 17 | 88 | 88 | 90 | 10 | 10 | 32 | M8 |
| 140 | 9 | 17 | 98 | 98 | 110 | 10 | 10 | 32 | M8 |
| 160 | 9 | 17 | 109 | 109 | 108 | 10 | 10 | 32 | M8 |

## KLIP-IT pipe clip type 061 PE metric

**Model:**

- Material: Clip PE and safety clip PP black, bolts galvanized
- **Minimum order quantity: standard packaging SP**

- Height not designed for ball valve 546 and 543. Please use spacer 73 06 11.





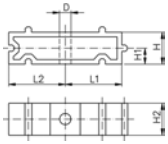
| d [mm] | Code | kg | D [mm] | D1 [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | H3 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| * 10 | **173 061 003** | 0.003 | 5 | 8 | 11 | 14 | 20 | 10 | 6 | 12 | M4 |
| * 12 | **173 061 004** | 0.006 | 5 | 8 | 11 | 14 | 21 | 10 | 6 | 12 | M5 |
| * 16 | **173 061 005** | 0.007 | 6 | 11 | 14 | 17 | 23 | 10 | 6 | 16 | M5 |
| * 20 | **173 061 006** | 0.008 | 6 | 11 | 17 | 19 | 25 | 10 | 6 | 16 | M5 |
| * 25 | **173 061 007** | 0.009 | 6 | 11 | 19 | 22 | 28 | 10 | 6 | 16 | M5 |
| * 32 | **173 061 008** | 0.012 | 6 | 11 | 24 | 27 | 31 | 10 | 6 | 16 | M5 |
| 40 | **173 061 009** | 0.022 | 7 | 14 | 34 | 34 | 35 | 10 | 7 | 22 | M6 |
| 50 | **173 061 010** | 0.030 | 7 | 14 | 37 | 37 | 40 | 10 | 7 | 22 | M6 |
| 63 | **173 061 011** | 0.044 | 9 | 17 | 45 | 45 | 52 | 10 | 10 | 25 | M8 |
| 75 | **173 061 012** | 0.062 | 9 | 17 | 52 | 52 | 58 | 10 | 10 | 25 | M8 |
| 90 | **173 061 013** | 0.090 | 9 | 17 | 65 | 65 | 65 | 10 | 10 | 28 | M8 |
| 110 | **173 061 014** | 0.114 | 9 | 17 | 79 | 79 | 75 | 10 | 10 | 28 | M8 |
| 125 | **173 061 015** | 0.174 | 9 | 17 | 88 | 88 | 90 | 10 | 10 | 32 | M8 |
| 140 | **173 061 016** | 0.217 | 9 | 17 | 98 | 98 | 110 | 10 | 10 | 32 | M8 |
| 160 | **173 061 017** | 0.237 | 9 | 17 | 109 | 109 | 108 | 10 | 10 | 32 | M8 |

73 06 11

## KLIP-IT spacer type 061 PE

**Model:**

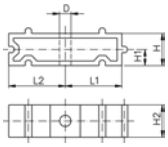
- For pipe clips Type 061, PE black, UV resistant
- **Minimum order quantity: standard packaging SP**




| d [mm] | Inch | Code | kg | kg/m |
|---|---|---|---|---|
| | 1/8-1/4 | **173 061 153** | 0.003 | 0.003 |
| 16 | 3/8 | **173 061 155** | 0.005 | 0.005 |
| 20 | 1/2 | **173 061 156** | 0.006 | 0.006 |
| 25 | 3/4 | **173 061 157** | 0.007 | 0.007 |
| 32 | 1 | **173 061 158** | 0.008 | 0.008 |
| 40 | 11/4 | **173 061 159** | 0.016 | 0.016 |
| 50 | 11/2 | **173 061 160** | 0.017 | 0.017 |
| 63 | 2 | **173 061 161** | 0.025 | 0.025 |
| 75 | 21/2 | **173 061 162** | 0.027 | 0.027 |
| 90 | 3 | **173 061 163** | 0.040 | 0.040 |
| 110 | 4 | **173 061 164** | 0.048 | 0.048 |
| 125 | 41/2 | **173 061 165** | 0.059 | 0.059 |
| 140 | 5 | **173 061 166** | 0.065 | 0.065 |
| 160 | 6 | **173 061 167** | 0.074 | 0.074 |

| d [mm] | D [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|
| | 5 | 11 | 14 | 20 | 10 | 12 | M4 |
| 16 | 6 | 14 | 17 | 20 | 10 | 16 | M5 |
| 20 | 6 | 17 | 19 | 20 | 10 | 16 | M5 |
| 25 | 6 | 19 | 22 | 20 | 10 | 16 | M5 |
| 32 | 6 | 24 | 27 | 20 | 10 | 16 | M5 |
| 40 | 7 | 34 | 34 | 20 | 10 | 22 | M6 |

table continued next page

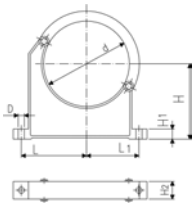



| d [mm] | D [mm] | L1 [mm] | L2 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|
| 50 | 7 | 37 | 37 | 20 | 10 | 22 | M6 |
| 63 | 9 | 45 | 45 | 20 | 10 | 25 | M8 |
| 75 | 9 | 52 | 52 | 20 | 10 | 25 | M8 |
| 90 | 9 | 65 | 65 | 20 | 10 | 28 | M8 |
| 110 | 9 | 79 | 79 | 20 | 10 | 28 | M8 |
| 125 | 9 | 88 | 88 | 20 | 10 | 32 | M8 |
| 140 | 9 | 98 | 98 | 20 | 10 | 32 | M8 |
| 160 | 9 | 109 | 109 | 20 | 10 | 32 | M8 |

## Pipe clip type 060 PP metric

**Model:**

- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- Accidental opening of the safety clip is not possible
- **Minimum order quantity: standard packaging SP or gross packaging GP**
- Clip and safety clip are not assembled in the packaging.
- Pipes with flanges can be installed directly

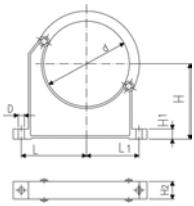



| d [mm] | d [inch] | Code | kg | D [mm] | L [mm] | L1 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 3 | **167 060 038** | 0.163 | 9 | 89 | 71 | 105 | 15 | 33 | M 8 |
| 110 | | **167 060 039** | 0.179 | 9 | 94 | 80 | 115 | 15 | 33 | M 8 |
| 125 | | **167 060 040** | 0.300 | 11 | 116 | 91 | 130 | 20 | 35 | M10 |
| 140 | 5 | **167 060 041** | 0.309 | 11 | 121 | 98 | 130 | 20 | 35 | M10 |
| 160 | | **167 060 042** | 0.348 | 11 | 131 | 107 | 148 | 20 | 35 | M10 |
| 180 | | **167 060 043** | 0.378 | 11 | 143 | 115 | 163 | 20 | 35 | M10 |
| 200 | | **167 060 019** | 0.582 | 13 | 152 | 120 | 175 | 25 | 39 | M12 |
| 225 | | **167 060 020** | 0.612 | 13 | 165 | 132 | 175 | 25 | 39 | M12 |
| 250 | | **167 060 021** | 0.698 | 13 | 183 | 143 | 200 | 25 | 39 | M12 |
| 280 | | **167 060 022** | 0.722 | 13 | 198 | 156 | 200 | 25 | 39 | M12 |
| 315 | | **167 060 023** | 0.842 | 13 | 219 | 172 | 225 | 25 | 39 | M12 |
| 355 | | **167 060 024** | 1.250 | 17 | 275 | 209 | 258 | 30 | 50 | M16 |
| 400 | | **167 060 025** | 1.450 | 17 | 300 | 228 | 288 | 30 | 50 | M16 |

## Pipe clip type 060 PP BS

**Model:**

- Material: Clip and safety clip PP black, UV resistant, bolts galvanized
- Accidental opening of the safety clip is not possible
- **Minimum order quantity: standard packaging SP or gross packaging GP**
- Clip and safety clip are not assembled in the packaging.




| d [inch] | d [mm] | Code | kg | kg/m | D [mm] | L [mm] | L1 [mm] | H [mm] | H1 [mm] | H2 [mm] | SC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 90 | **167 060 038** | 0.163 | 0.163 | 9 | 89 | 71 | 105 | 15 | 33 | M 8 |
| 4 | | **167 060 064** | 0.179 | 0.179 | 9 | 100 | 82 | 120 | 15 | 33 | M 8 |
| 5 | 140 | **167 060 041** | 0.309 | 0.309 | 11 | 121 | 98 | 130 | 20 | 35 | M10 |
| 6 | | **167 060 067** | 0.348 | 0.348 | 11 | 136 | 111 | 148 | 25 | 35 | M 10 |
| 8 | | **167 060 070** | 0.612 | 0.612 | 13 | 165 | 132 | 175 | 25 | 39 | M 12 |

# Solvent and Tools

99 29 80

## Tangit ABS solvent cement

- 0,65 kg can (net)

| Code | kg | Description |
|---|---|---|
| **799 298 022** | 0.751 | tin: 0.65 kg |

## Tangit cleaner

**Model:**

- 1 litre tin

| Code | kg | kg/m |
|---|---|---|
| **799 298 010** | 0.868 | 0.868 |

90 10 90

## PPC Plastic pipe cutter

- For cutting plastic pipes d10 - d160

| d-d [mm] | Article | Code | kg | kg/m |
|---|---|---|---|---|
| 10 - 63 | PPC 63, s max. = 7.2mm | **790 109 001** | 0.710 | 0.710 |
| 50 - 110 | PPC 110, s max. = 12.7mm | **790 109 002** | 1.400 | 1.400 |
| 110 - 160 | PPC 160, s max. = 19.0mm | **790 109 003** | 1.880 | 1.880 |

90 30 90

## Chamfering tools

- Chamfering tool (15° bevel) for plastic pipes (PVC, ABS, PB, PP, PE). Coated prism surface suitable for clean room applications. Fast and reliable adjustment to the different pipe diameters and wall thickness.

| d-d [mm] | Code | kg | kg/m |
|---|---|---|---|
| 16 - 200 | **790 309 003** | 1.100 | 1.100 |
| 63 - 400 | **790 309 004** | 2.500 | 2.500 |



## Round brush

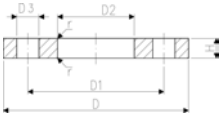
| d-d [mm] | | Code | kg | kg/m |
|---|---|---|---|---|
| 6 - 10 | 4 mm (for Fittings 6-10mm) | **799 299 001** | 0.005 | 0.005 |
| 12 - 32 | 8 mm (for Fittings 12-32mm) | **799 299 002** | 0.009 | 0.009 |

## Flat brush

| d-d [mm] | | Code | kg | kg/m |
|---|---|---|---|---|
| 40 - 63 | 25x3 mm (for Fittings 40-63mm) | **799 299 003** | 0.015 | 0.015 |
| 75 - 225 | 50x5 mm (for Fittings 75-225mm) | **799 299 004** | 0.026 | 0.026 |
| 250 - 400 | 75x6 mm (for Fittings 250-400mm) | **799 299 005** | 0.045 | 0.045 |

# Backing Flanges & Gaskets

24 70 14




## Backing Flange, Galvanised Steel for Socket Systems

**Model:**

- Galvanised steel, suitable for laying underground
- Connecting dimensions: BS10:1962
- Bolt circle Table D &E

AL: number of holes

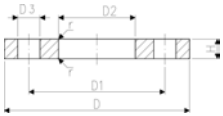
* Table D

** Table E

| d [mm] | DN [mm] | d [inch] | PN | Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | ½ | 16 | **724 701 406** | 0.220 |
| 25 | 20 | ¾ | 16 | **724 701 407** | 0.320 |
| 32 | 25 | 1 | 16 | **724 701 408** | 0.410 |
| 40 | 32 | 1 ¼ | 16 | **724 701 409** | 0.820 |
| 50 | 40 | 1 ½ | 16 | **724 701 410** | 1.040 |
| 63 | 50 | 2 | 16 | **724 701 411** | 1.220 |
| 75 | 65 | 2 ½ | 16 | **724 701 412** | 1.200 |
| 90 | 80 | 3 | 16 | **724 701 413** | 1.530 |
| ** 110 | 100 | | 16 | **724 703 414** | 1.840 |
| * | 100 | 4 | 16 | **724 701 414** | 1.840 |
| ** | 100 | 4 | 16 | **724 701 415** | 1.840 |
| 140 | 125 | 5 | 16 | **724 701 416** | 2.070 |
| | 160 | 6 | 16 | **724 701 417** | 2.330 |
| 225 | 200 | 8 | 6 | **724 701 419** | 2.750 |

| d [mm] | DN [mm] | d [inch] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | ½ | 96 | 67 | 28 | 15 | 7 | 4 | M12x55 |
| 25 | 20 | ¾ | 102 | 73 | 34 | 15 | 7 | 4 | M12x60 |
| 32 | 25 | 1 | 115 | 83 | 42 | 15 | 7 | 4 | M12x60 |
| 40 | 32 | 1 ¼ | 121 | 88 | 51 | 15 | 8 | 4 | M12x70 |
| 50 | 40 | 1 ½ | 134 | 99 | 62 | 15 | 8 | 4 | M12x75 |
| 63 | 50 | 2 | 153 | 115 | 78 | 18 | 8 | 4 | M16x80 |
| 75 | 65 | 2 ½ | 165 | 127 | 92 | 18 | 8 | 4 | M16x85 |
| 90 | 80 | 3 | 184 | 146 | 110 | 18 | 8 | 4 | M16x90 |
| ** 110 | 100 | | 216 | 178 | 133 | 18 | 8 | 8 | M16x95 |
| * | 100 | 4 | 216 | 178 | 138 | 18 | 8 | 4 | M16x95 |
| ** | 100 | 4 | 216 | 178 | 138 | 18 | 8 | 8 | M16x95 |
| 140 | 125 | 5 | 254 | 210 | 167 | 18 | 8 | 8 | M16x110 |
| | 160 | 6 | 280 | 235 | 200 | 22 | 8 | 8 | M20x120 |
| 225 | 200 | 8 | 337 | 292 | 250 | 22 | 8 | 8 | M20x150 |

24 70 16




## Backing Flanges for socket sysems - all materials

**Model:**

- Galvanised steel, suitable for laying underground
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- Bolt circle PN10/16

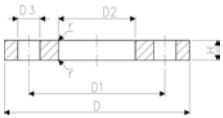
AL: number of holes

*Bolt circle PN16

| d [mm] | DN [mm] | d [inch] | PN | Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | ½ | 16 | **724 701 606** | 0.220 |
| 25 | 20 | ¾ | 16 | **724 701 607** | 0.320 |
| 32 | 25 | 1 | 16 | **724 701 608** | 0.410 |
| 40 | 32 | 1 ¼ | 16 | **724 701 609** | 0.820 |
| 50 | 40 | 1 ½ | 16 | **724 701 610** | 1.040 |
| 63 | 50 | 2 | 16 | **724 701 611** | 1.220 |
| 75 | 65 | 2 ½ | 16 | **724 701 612** | 1.440 |
| 90 | 80 | 3 | 16 | **724 701 613** | 1.530 |
| 110 | 100 | | 16 | **724 700 014** | 1.840 |
| | 100 | 4 | 16 | **724 701 615** | 1.620 |
| 140 | 125 | 5 | 16 | **724 701 616** | 2.250 |
| | 150 | 6 | 16 | **724 701 617** | 2.510 |
| * 225 | 200 | 8 | 6 | **724 701 720** | 3.000 |

| d [mm] | DN [mm] | d [inch] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | ½ | 95 | 65 | 28 | 14 | 7 | 4 | M12x55 |
| 25 | 20 | ¾ | 105 | 75 | 34 | 14 | 7 | 4 | M12x60 |
| 32 | 25 | 1 | 115 | 85 | 42 | 14 | 7 | 4 | M12x60 |
| 40 | 32 | 1 ¼ | 140 | 100 | 51 | 18 | 8 | 4 | M16x70 |
| 50 | 40 | 1 ½ | 150 | 110 | 62 | 18 | 8 | 4 | M16x75 |
| 63 | 50 | 2 | 165 | 125 | 78 | 18 | 8 | 4 | M16x80 |
| 75 | 65 | 2 ½ | 185 | 145 | 92 | 18 | 8 | 4 | M16x85 |
| 90 | 80 | 3 | 200 | 160 | 110 | 18 | 8 | 4 | M16x90 |
| 110 | 100 | | 220 | 180 | 133 | 18 | 8 | 8 | M16x95 |
| | 100 | 4 | 220 | 180 | 138 | 18 | 8 | 8 | M16x95 |
| 140 | 125 | 5 | 250 | 210 | 167 | 18 | 8 | 8 | M16x110 |
| | 150 | 6 | 285 | 240 | 200 | 22 | 8 | 8 | M20x120 |
| * 225 | 200 | 8 | 340 | 295 | 250 | 22 | 8 | 12 | M20x150 |

24 70 18




## Backing Flanges for socket systems - all materials

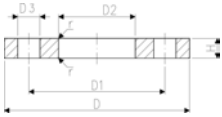
**Model:**

- Galvanised steel, suitable for laying underground
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- Bolt circle Class 150

AL: number of holes

| d [mm] | DN [mm] | d [inch] | PN | Code | kg |
|---|---|---|---|---|---|
| 20 | 15 | ½ | 16 | **724 701 806** | 0.230 |
| 25 | 20 | ¾ | 16 | **724 701 807** | 0.300 |
| 32 | 25 | 1 | 16 | **724 701 808** | 0.350 |
| 40 | 32 | 1 ¼ | 16 | **724 701 809** | 0.480 |

table continued next page




| d [mm] | DN [mm] | d [inch] | PN | Code | kg |
|---|---|---|---|---|---|
| 50 | 40 | 1 ½ | 16 | **724 701 810** | 0.650 |
| 63 | 50 | 2 | 16 | **724 701 811** | 0.990 |
| 75 | 65 | 2 ½ | 16 | **724 701 812** | 1.200 |
| 90 | 80 | 3 | 16 | **724 701 813** | 1.310 |
| 110 | 100 | | 16 | **724 703 814** | 2.011 |
| | 100 | 4 | 16 | **724 701 815** | 1.890 |
| 140 | 125 | 5 | 16 | **724 701 816** | 2.000 |
| | 150 | 6 | 16 | **724 701 817** | 1.950 |
| 225 | 200 | 8 | 6 | **724 701 820** | 3.160 |

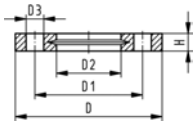
| d [mm] | DN [mm] | d [inch] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|---|---|
| 20 | 15 | ½ | 89 | 60 | 28 | 16 | 7 | 4 | M12x55 |
| 25 | 20 | ¾ | 98 | 70 | 34 | 16 | 7 | 4 | M12x60 |
| 32 | 25 | 1 | 108 | 79 | 42 | 16 | 7 | 4 | M12x60 |
| 40 | 32 | 1 ¼ | 117 | 89 | 51 | 16 | 8 | 4 | M12x70 |
| 50 | 40 | 1 ½ | 127 | 98 | 62 | 16 | 8 | 4 | M12x75 |
| 63 | 50 | 2 | 152 | 121 | 78 | 19 | 8 | 4 | M16x80 |
| 75 | 65 | 2 ½ | 178 | 140 | 92 | 19 | 8 | 4 | M16x85 |
| 90 | 80 | 3 | 190 | 152 | 110 | 19 | 8 | 4 | M16x90 |
| 110 | 100 | | 229 | 190 | 133 | 19 | 8 | 8 | M16x95 |
| | 100 | 4 | 229 | 190 | 138 | 19 | 8 | 8 | M16x95 |
| 140 | 125 | 5 | 254 | 216 | 167 | 22 | 8 | 8 | M20x120 |
| | 150 | 6 | 279 | 241 | 200 | 22 | 8 | 8 | M20x120 |
| 225 | 200 | 8 | 343 | 298 | 250 | 22 | 8 | 8 | M20x150 |

27 70 04
27 70 05

## Backing Flanges, PP-V
## For socket systems metric

**Model:**

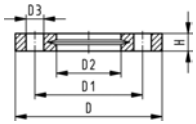
- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt retainers as an assembly aid
- UV-resistant. Applicable for outside applications
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- **Bolt circle PN 10**




AL: number of holes

| d [mm] | Inch | DN [mm] | PN | Code | LVI | kg |
|---|---|---|---|---|---|---|
| 20 | | 15 | 16 | **727 700 406** | **183 38 09** | 0.080 |
| 25 | | 20 | 16 | **727 700 407** | **183 38 10** | 0.100 |
| 32 | | 25 | 16 | **727 700 408** | **183 38 11** | 0.140 |
| 40 | | 32 | 16 | **727 700 409** | **183 38 12** | 0.220 |
| 50 | | 40 | 16 | **727 700 410** | **183 38 13** | 0.210 |
| 63 | | 50 | 16 | **727 700 411** | **183 38 14** | 0.380 |
| 75 | | 65 | 16 | **727 700 412** | **183 38 15** | 0.480 |
| 90 | | 80 | 16 | **727 700 413** | **183 38 16** | 0.520 |
| 110 | | 100 | 16 | **727 700 414** | **183 38 17** | 0.680 |
| 140 | | 125 | 16 | **727 700 416** | **183 38 18** | 0.800 |
| 160 | 6 | 150 | 16 | **727 700 417** | **183 38 19** | 1.200 |
| 200 | | 200 | 16 | **727 700 419** | **183 38 20** | 1.500 |
| 225 | 8 | 200 | 16 | **727 700 420** | **183 38 21** | 1.400 |

table continued next page




| d [mm] | Inch | DN [mm] | PN | Code | LVI | kg |
|---|---|---|---|---|---|---|
| 250 | | 250 | 16 | **727 700 421** | **183 38 22** | 1.700 |
| 280 | | 250 | 16 | **727 700 422** | **183 38 23** | 1.700 |
| 315 | | 300 | 16 | **727 700 423** | **183 38 24** | 2.400 |

| d [mm] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|
| 20 | 95 | 65 | 28 | 14 | 16 | 4 | M12 |
| 25 | 105 | 75 | 34 | 14 | 17 | 4 | M12 |
| 32 | 115 | 85 | 42 | 14 | 18 | 4 | M12 |
| 40 | 140 | 100 | 51 | 18 | 20 | 4 | M16 |
| 50 | 150 | 110 | 62 | 18 | 22 | 4 | M16 |
| 63 | 165 | 125 | 78 | 18 | 24 | 4 | M16 |
| 75 | 185 | 145 | 92 | 18 | 26 | 4 | M16 |
| 90 | 200 | 160 | 110 | 18 | 27 | 8 | M16 |
| 110 | 220 | 180 | 133 | 18 | 28 | 8 | M16 |
| 140 | 250 | 210 | 167 | 18 | 30 | 8 | M16 |
| 160 | 285 | 241 | 190 | 22 | 32 | 8 | M20 |
| 200 | 340 | 296 | 226 | 22 | 34 | 8 | M20 |
| 225 | 340 | 295 | 250 | 22 | 34 | 8 | M20 |
| 250 | 395 | 350 | 277 | 22 | 38 | 12 | M20 |
| 280 | 395 | 350 | 310 | 22 | 38 | 12 | M20 |
| 315 | 445 | 400 | 348 | 22 | 42 | 12 | M20 |

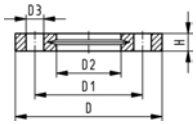
27 70 14
27 70 15

## Backing Flanges, PP-V
## For socket systems Inch ANSI

**Model:**

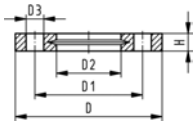
- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- UV-resistant. Applicable for outside applications
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- **Bolt circle class 150**
- DN100 and DN150: only for use with original metric flange adaptors

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes




| Inch | DN [mm] | PN | Code | LVI | kg | kg/m |
|---|---|---|---|---|---|---|
| [1] ½ | 15 | 16 | **727 701 406** | | 0.080 | 0.080 |
| [1] ¾ | 20 | 16 | **727 701 407** | | 0.100 | 0.100 |
| [1] 1 | 25 | 16 | **727 701 408** | | 0.140 | 0.140 |
| [1] 1 ¼ | 32 | 16 | **727 701 409** | | 0.220 | 0.220 |
| [1] 1 ½ | 40 | 16 | **727 701 410** | | 0.210 | 0.210 |
| [1] 2 | 50 | 16 | **727 701 411** | | 0.380 | 0.380 |
| [1] 2 ½ | 65 | 16 | **727 701 412** | | 0.480 | 0.480 |
| 3 | 80 | 16 | **727 701 413** | | 0.520 | 0.520 |
| 4 | 100 | 16 | **727 701 414** | | 0.680 | 0.680 |
| 6 | 150 | 16 | **727 700 417** | **183 38 19** | 1.200 | 1.200 |
| 10 | 250 | 16 | **727 701 422** | | 1.700 | 1.700 |
| 12 | 300 | 16 | **727 701 423** | | 2.400 | 2.400 |

table continued next page




| Inch | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|
| [1] ½ | 95 | 60 | 28 | 16 | 16 | 4 | M12 |
| [1] ¾ | 105 | 70 | 34 | 16 | 17 | 4 | M12 |
| [1] 1 | 115 | 79 | 42 | 16 | 18 | 4 | M12 |
| [1] 1 ¼ | 140 | 89 | 51 | 16 | 20 | 4 | M16 |
| [1] 1 ½ | 150 | 98 | 62 | 16 | 22 | 4 | M16 |
| [1] 2 | 165 | 121 | 78 | 19 | 24 | 4 | M16 |
| [1] 2 ½ | 185 | 140 | 92 | 19 | 26 | 4 | M16 |
| 3 | 200 | 152 | 110 | 19 | 27 | 4 | M16 |
| 4 | 229 | 190 | 133 | 19 | 28 | 8 | M16 |
| 6 | 285 | 241 | 190 | 22 | 32 | 8 | M20 |
| 10 | 406 | 362 | 310 | 26 | 38 | 12 | M20 |
| 12 | 483 | 432 | 348 | 26 | 42 | 12 | M20 |

27 70 02

## Backing flange PP-Steel
## For socket systems metric

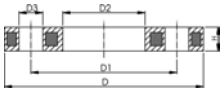
**Model:**

- PP-GF (30% glass-fibre reinforced) with steel ring
- UV-resistant. Applicable for outside applications
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- **Bolt circle PN 10**

[1] Connecting dimension: ISO 2536, bolt circle acc. DN125, suitable for flange adaptor d125/DN100

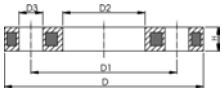
[2] Connecting dimension: ISO 2536, bolt circle acc. DN225, suitable for flange adaptor d250/DN250

AL: number of holes




| d [mm] | d [inch] | DN [mm] | PN | Code | kg |
|---|---|---|---|---|---|
| 20 | | 15 | 16 | **727 700 206** | 0.220 |
| 25 | | 20 | 16 | **727 700 207** | 0.260 |
| 32 | | 25 | 16 | **727 700 208** | 0.430 |
| 40 | | 32 | 16 | **727 700 209** | 0.650 |
| 50 | | 40 | 16 | **727 700 210** | 0.820 |
| 63 | | 50 | 16 | **727 700 211** | 0.940 |
| 75 | | 65 | 16 | **727 700 212** | 1.300 |
| 90 | | 80 | 16 | **727 700 213** | 1.400 |
| 110 | | 100 | 16 | **727 700 214** | 1.560 |
| [1] 125 | | 125 | 16 | **727 700 215** | 2.590 |
| 140 | | 125 | 16 | **727 700 216** | 2.120 |
| 160 | 6 | 150 | 16 | **727 700 217** | 3.390 |
| 200 | | 200 | 16 | **727 700 219** | 5.850 |
| 225 | | 200 | 16 | **727 700 220** | 4.410 |
| [2] 250 | | 225 | 16 | **727 700 221** | 8.340 |
| 280 | | 250 | 16 | **727 700 222** | 5.520 |
| 315 | | 300 | 16 | **727 700 223** | 7.600 |
| 355 | | 350 | 16 | **727 700 224** | 13.960 |
| 400 | | 400 | 16 | **727 700 225** | 17.380 |

table continued next page




| d [mm] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | AL | SC |
|---|---|---|---|---|---|---|---|
| 20 | 95 | 65 | 28 | 14 | 12 | 4 | M12 |
| 25 | 105 | 75 | 34 | 14 | 12 | 4 | M12 |
| 32 | 115 | 85 | 42 | 14 | 16 | 4 | M12 |
| 40 | 140 | 100 | 51 | 18 | 16 | 4 | M16 |
| 50 | 150 | 110 | 62 | 18 | 20 | 4 | M16 |
| 63 | 165 | 125 | 78 | 18 | 20 | 4 | M16 |
| 75 | 185 | 145 | 92 | 18 | 20 | 4 | M16 |
| 90 | 200 | 160 | 110 | 18 | 20 | 8 | M16 |
| 110 | 220 | 180 | 133 | 18 | 20 | 8 | M16 |
| [1] 125 | 250 | 210 | 150 | 18 | 24 | 8 | M16 |
| 140 | 250 | 210 | 167 | 18 | 24 | 8 | M16 |
| 160 | 285 | 240 | 190 | 22 | 24 | 8 | M20 |
| 200 | 340 | 295 | 226 | 22 | 27 | 8 | M20 |
| 225 | 340 | 295 | 250 | 22 | 27 | 8 | M20 |
| [2] 250 | 395 | 325 | 277 | 22 | 30 | 8 | M20 |
| 280 | 395 | 350 | 310 | 22 | 30 | 12 | M20 |
| 315 | 445 | 400 | 348 | 22 | 34 | 12 | M20 |
| 355 | 515 | 460 | 388 | 23 | 40 | 16 | M20 |
| 400 | 574 | 515 | 442 | 26 | 40 | 16 | M24 |

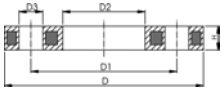
27 70 12

## Backing flange PP-Steel
## For socket systems Inch/ANSI

**Model:**

- For Flange Adaptors BS/ANSI
- Material: PP (30 % glass-fibre reinforced) with steel ring
- UV-resistant. Applicable for outside applications
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- **Bolt circle class 150**
- DN100 and DN150: only for use with original metric flange adaptors

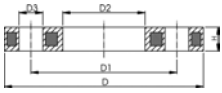
AL: number of holes




| d [inch] | DN [mm] | d [mm] | PN | Code | kg | kg/m |
|---|---|---|---|---|---|---|
| ½ | 15 | 20 | 16 | **727 701 206** | 0.210 | 0.210 |
| ¾ | 20 | 25 | 16 | **727 701 207** | 0.250 | 0.250 |
| 1 | 25 | 32 | 16 | **727 701 208** | 0.420 | 0.420 |
| 1 ¼ | 32 | 40 | 16 | **727 701 209** | 0.670 | 0.670 |
| 1 ½ | 40 | 50 | 16 | **727 701 210** | 0.860 | 0.860 |
| 2 | 50 | 63 | 16 | **727 701 211** | 0.930 | 0.930 |
| 2 ½ | 65 | 75 | 16 | **727 701 212** | 1.340 | 1.340 |
| 3 | 80 | 90 | 16 | **727 701 213** | 1.550 | 1.550 |
| 4 | 100 | 110 | 16 | **727 701 214** | 1.810 | 1.810 |
| 6 | 150 | 160 | 16 | **727 700 217** | 3.390 | 3.390 |
| 8 | 200 | 200 | 16 | **727 701 220** | 4.410 | 4.410 |

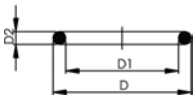
| d [inch] | D1 [mm] | D2 [mm] | D3 [mm] | D [mm] | H [mm] | AL |
|---|---|---|---|---|---|---|
| ½ | 60 | 28 | 16 | 95 | 12 | 4 |
| ¾ | 70 | 34 | 16 | 105 | 12 | 4 |
| 1 | 79 | 42 | 16 | 115 | 16 | 4 |
| 1 ¼ | 89 | 51 | 16 | 140 | 16 | 4 |

table continued next page




| d [inch] | D1 [mm] | D2 [mm] | D3 [mm] | D [mm] | H [mm] | AL |
|---|---|---|---|---|---|---|
| 1 ½ | 98 | 62 | 16 | 150 | 18 | 4 |
| 2 | 121 | 78 | 19 | 165 | 18 | 4 |
| 2 ½ | 140 | 92 | 19 | 185 | 18 | 4 |
| 3 | 152 | 110 | 19 | 200 | 20 | 4 |
| 4 | 190 | 133 | 19 | 229 | 20 | 8 |
| 6 | 240 | 190 | 22 | 285 | 24 | 8 |
| 8 | 298 | 250 | 22 | 340 | 27 | 8 |

EPDM 48 41 00
FPM 49 41 00




## O-Ring gasket

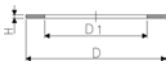
**Model:**

- For unions and adaptor unions
- Hardness approx. 65° Shore
- EPDM minimum temperature -40°C
- FPM minimum temperature -15°C

* for unions PVC-U, PVC-C and ABS: 21 51 01, 21 51 11, 21 53 03, 21 53 08, 21 55 04, 21 55 13, 21 55 18, 23 51 01 and 29 51 01 only

| d [mm] | DN [mm] | EPDM Code | FPM Code | kg | kg/m | D [mm] | D1 [mm] | D2 [mm] |
|---|---|---|---|---|---|---|---|---|
| 10 - 12 | 8 | **748 410 004** | **749 410 004** | 0.002 | 0.002 | 18 | 12 | 2.62 |
| 16 | 10 | **748 410 005** | **749 410 005** | 0.002 | 0.002 | 21 | 16 | 2.62 |
| 20 | 15 | **748 410 006** | **749 410 006** | 0.002 | 0.002 | 27 | 20 | 3.53 |
| 25 | 20 | **748 410 007** | **749 410 007** | 0.002 | 0.002 | 35 | 28 | 3.53 |
| 32 | 25 | **748 410 008** | **749 410 008** | 0.002 | 0.002 | 40 | 33 | 3.53 |
| 40 | 32 | **748 410 009** | **749 410 009** | 0.006 | 0.006 | 51 | 41 | 5.34 |
| 50 | 40 | **748 410 010** | **749 410 010** | 0.007 | 0.007 | 58 | 47 | 5.34 |
| 63 | 50 | **748 410 011** | **749 410 011** | 0.010 | 0.010 | 70 | 60 | 5.34 |
| 75 | 65 | **748 410 014** | **749 410 014** | 0.012 | 0.012 | 93 | 82 | 5.34 |
| 90 | 80 | **748 410 015** | **749 410 015** | 0.015 | 0.015 | 112 | 101 | 5.34 |
| 110 | 100 | **748 410 016** | **749 410 016** | 0.031 | 0.031 | 134 | 120 | 6.99 |

EPDM 48 40 00
FPM 49 40 00



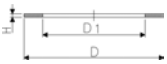

## Flat gasket

**Model:**

- Hardness approx. 65° Shore
- For adaptor unions

| d [mm] | Inch | EPDM Code | FPM Code | kg | kg/m | D [mm] | D1 [mm] | H [mm] |
|---|---|---|---|---|---|---|---|---|
| 12 | ¼ | **748 400 004** | **-** | 0.002 | 0.002 | 20 | 13 | 2 |
| 16 | ⅜ | **748 400 005** | **749 400 005** | 0.002 | 0.002 | 24 | 17 | 2 |
| 20 | ½ | **748 400 006** | **749 400 006** | 0.003 | 0.003 | 30 | 21 | 3 |
| 25 | ¾ | **748 400 007** | **749 400 007** | 0.004 | 0.004 | 38 | 27 | 3 |
| 32 | 1 | **748 400 008** | **749 400 008** | 0.002 | 0.002 | 44 | 32 | 3 |
| 40 | 1 ¼ | **748 400 009** | **749 400 009** | 0.003 | 0.003 | 55 | 42 | 3 |
| 50 | 1 ½ | **748 400 010** | **749 400 010** | 0.004 | 0.004 | 62 | 46 | 3 |
| 63 | 2 | **748 400 011** | **749 400 011** | 0.006 | 0.006 | 78 | 60 | 3 |
| 75 | 2 ½ | **748 400 012** | **749 400 012** | 0.009 | 0.009 | 97 | 75 | 3 |
| 90 | 3 | **748 400 013** | **749 400 013** | 0.011 | 0.011 | 109 | 88 | 3 |

EPDM 48 40 00
FPM 49 40 00




## Flat Gaskets

**Model:**

- For Flange Adaptors 21 79 01/21 80 01
- Hardness: 70° Shore **EPDM**, 75° Shore **FPM**

| d [mm] | DN [mm] | Inch | PN | EPDM Code | FPM Code | kg | kg/m |
|---|---|---|---|---|---|---|---|
| 16 | 10 | ⅜ | 10 | **748 400 014** | | 0.002 | 0.002 |
| 20 | 15 | ½ | 10 | **748 400 015** | **749 400 015** | 0.003 | 0.003 |
| 25 | 20 | ¾ | 10 | **748 400 016** | **749 400 016** | 0.003 | 0.003 |
| 32 | 25 | 1 | 10 | **748 400 017** | **749 400 017** | 0.004 | 0.004 |
| 40 | 32 | 1 ¼ | 10 | **748 400 018** | **749 400 018** | 0.008 | 0.008 |
| 63 | 50 | 2 | 10 | **748 400 020** | **749 400 020** | 0.017 | 0.017 |
| 75 | 65 | 2 ½ | 10 | **748 400 021** | **749 400 021** | 0.024 | 0.024 |
| 90 | 80 | 3 | 10 | **748 400 022** | **749 400 022** | 0.032 | 0.032 |
| 110 | 100 | 4 | 10 | **748 400 023** | | 0.015 | 0.048 |
| 140 | 125 | 5 | 10 | **748 400 025** | **749 400 025** | 0.058 | 0.058 |
| 160 | 150 | 6 | 10 | **748 400 026** | **749 400 026** | 0.063 | 0.063 |
| 225 | 200 | 8 | 6 | **748 400 027** | **749 400 027** | 0.103 | 0.103 |

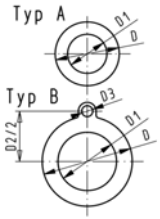
| d [mm] | D [mm] | D1 [mm] | H [mm] |
|---|---|---|---|
| 16 | 27 | 16 | 2 |
| 20 | 32 | 20 | 2 |
| 25 | 39 | 25 | 2 |
| 32 | 48 | 32 | 2 |
| 40 | 59 | 40 | 3 |
| 63 | 88 | 63 | 3 |
| 75 | 104 | 75 | 3 |
| 90 | 123 | 90 | 3 |
| 110 | 148 | 110 | 4 |
| 140 | 186 | 140 | 4 |
| 160 | 211 | 160 | 4 |
| 225 | 272 | 220 | 5 |

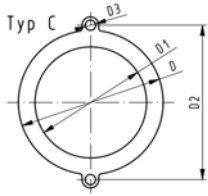
EPDM 48 40 03

## Flat gasket

**Model:**

- For all metric GF Flange Adaptors
- Hardness approx. 65° Shore
- Integrated fixation aids from d110
- Centering on the inner diameter of the screw crown



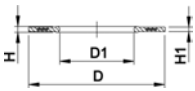




di FA are the suitable inner diameters of flange adaptors

| d [mm] | DN [mm] | PN | Type | EPDM Code | kg | kg/m |
|---|---|---|---|---|---|---|
| 16 | 10 | 10 | A | **748 400 305** | 0.005 | 0.005 |
| 20 | 15 | 10 | A | **748 400 306** | 0.010 | 0.010 |
| 25 | 20 | 10 | A | **748 400 307** | 0.020 | 0.020 |
| 32 | 25 | 10 | A | **748 400 308** | 0.025 | 0.025 |
| 40 | 32 | 10 | A | **748 400 309** | 0.030 | 0.030 |
| 50 | 40 | 10 | A | **748 400 310** | 0.035 | 0.035 |
| 63 | 50 | 10 | A | **748 400 311** | 0.040 | 0.040 |
| 75 | 65 | 10 | A | **748 400 312** | 0.045 | 0.045 |
| 90 | 80 | 10 | A | **748 400 313** | 0.050 | 0.050 |
| 110 | 100 | 10 | B | **748 400 314** | 0.032 | 0.032 |
| 125 | 100 | 10 | B | **748 400 315** | 0.058 | 0.058 |
| 140 | 125 | 10 | B | **748 400 316** | 0.062 | 0.062 |
| 160 / 180 | 150 | 10 | B | **748 400 317** | 0.068 | 0.068 |
| 200 | 200 | 6 | C | **748 400 319** | 0.075 | 0.075 |
| 225 | 200 | 6 | C | **748 400 320** | 0.079 | 0.079 |
| 250 | 250 | 6 | C | **748 400 321** | 0.103 | 0.103 |
| 280 | 250 | 6 | C | **748 400 322** | 0.150 | 0.150 |
| 315 | 300 | 6 | C | **748 400 323** | 0.230 | 0.230 |

| d [mm] | DN [mm] | D [mm] | D1 [mm] | D2 [mm] | D3 [mm] | H [mm] | di FA [mm] |
|---|---|---|---|---|---|---|---|
| 16 | 10 | 46 | 16 | | | 2 | 6 - 26 |
| 20 | 15 | 51 | 20 | | | 2 | 10 - 30 |
| 25 | 20 | 61 | 25 | | | 2 | 15 - 35 |
| 32 | 25 | 71 | 32 | | | 2 | 22 - 42 |
| 40 | 32 | 82 | 40 | | | 3 | 30 - 50 |
| 50 | 40 | 92 | 50 | | | 3 | 40 - 60 |
| 63 | 50 | 107 | 63 | | | 3 | 53 - 73 |
| 75 | 65 | 127 | 71 | | | 3 | 61 - 81 |
| 90 | 80 | 142 | 84 | | | 3 | 74 - 94 |
| 110 | 100 | 162 | 104 | 180 | 18 | 4 | 94 - 114 |
| 125 | 100 | 162 | 119 | 180 | 18 | 4 | 109 - 129 |
| 140 | 125 | 192 | 134 | 210 | 18 | 4 | 124 - 144 |
| 160 / 180 | 150 | 218 | 155 | 241 | 22 | 4 | 145 - 165 |
| 200 | 200 | 273 | 195 | 295 | 22 | 5 | 185 - 205 |
| 225 | 200 | 273 | 216 | 295 | 22 | 5 | 206 - 226 |
| 250 | 250 | 328 | 250 | 350 | 22 | 5 | 240 - 260 |
| 280 | 250 | 328 | 273 | 350 | 22 | 5 | 263 - 283 |
| 315 | 300 | 378 | 305 | 400 | 22 | 5 | 295 - 315 |

EPDM 48 44 07
FPM 49 44 07




## Profile flange gasket metric

**Model:**

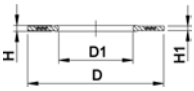
- For all metric GF Flange Adaptors
- Profile Gasket with steel insert (type G-ST-P/K)
- Hardness: 70° Shore **EPDM**, 75° Shore **FPM**
- **EPDM:** approved acc. to DVGW W 270, KTW recommendation
- Centering on the inner diameter of the screw crown
- material steel insert: carbon steel

di FA are the suitable inner diameters of flange adaptors

| d [mm] | DN [mm] | PN | EPDM Code | FPM Code | kg |
|---|---|---|---|---|---|
| 16 | 10 | 16 | **748 440 705** | **749 440 705** | 0.007 |
| 20 | 15 | 16 | **748 440 706** | **749 440 706** | 0.008 |
| 25 | 20 | 16 | **748 440 707** | **749 440 707** | 0.011 |
| 32 | 25 | 16 | **748 440 708** | **749 440 708** | 0.014 |
| 40 | 32 | 16 | **748 440 709** | **749 440 709** | 0.021 |
| 50 | 40 | 16 | **748 440 710** | **749 440 710** | 0.022 |
| 63 | 50 | 16 | **748 440 711** | **749 440 711** | 0.041 |
| 75 | 65 | 16 | **748 440 712** | **749 440 712** | 0.055 |
| 90 | 80 | 16 | **748 440 713** | **749 440 713** | 0.062 |
| 110 | 100 | 16 | **748 440 714** | **749 440 714** | 0.085 |
| 125 | 100 | 16 | **748 440 715** | **749 440 715** | 0.158 |
| 140 | 125 | 16 | **748 440 716** | **749 440 716** | 0.118 |
| 160 / 180 | 150 | 16 | **748 440 717** | **749 440 717** | 0.153 |
| 200 | 200 | 16 | **748 440 719** | **749 440 719** | 0.263 |
| 225 | 200 | 16 | **748 440 720** | **749 440 720** | 0.181 |
| 250 | 250 | 16 | **748 440 721** | **749 440 721** | 0.410 |
| 280 | 250 | 16 | **748 440 722** | **749 440 722** | 0.226 |
| 315 | 300 | 16 | **748 440 723** | **749 440 723** | 0.334 |
| 355 | 350 | 16 | **748 440 724** | **749 440 724** | 0.410 |
| 400 | 400 | 16 | **748 440 725** | **749 440 725** | 0.513 |
| 450 | 500 | 16 | **748 440 726** | **749 440 726** | 0.718 |
| 500 | 500 | 16 | **748 440 727** | **749 440 727** | 0.718 |
| 560 | 600 | 16 | **748 440 728** | **749 440 728** | 0.923 |
| 630 | 600 | 16 | **748 440 729** | **749 440 729** | 0.923 |

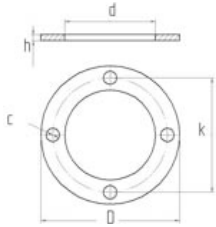
| d [mm] | DN [mm] | D [mm] | D1 [mm] | H [mm] | H1 [mm] | di FA [mm] |
|---|---|---|---|---|---|---|
| 16 | 10 | 46 | 16 | 4 | 3 | 6 - 16 |
| 20 | 15 | 51 | 20 | 4 | 3 | 10 - 20 |
| 25 | 20 | 61 | 22 | 4 | 3 | 12 - 22 |
| 32 | 25 | 71 | 28 | 4 | 3 | 18 - 28 |
| 40 | 32 | 82 | 40 | 4 | 3 | 30 - 40 |
| 50 | 40 | 92 | 46 | 4 | 3 | 36 - 46 |
| 63 | 50 | 107 | 58 | 5 | 4 | 48 - 58 |
| 75 | 65 | 127 | 69 | 5 | 4 | 59 - 69 |
| 90 | 80 | 142 | 84 | 5 | 4 | 73 - 84 |
| 110 | 100 | 162 | 104 | 6 | 5 | 94 - 104 |
| 125 | 100 | 162 | 123 | 6 | 5 | 113 - 123 |
| 140 | 125 | 192 | 137 | 6 | 5 | 127 - 137 |
| 160 / 180 | 150 | 218 | 160 | 8 | 6 | 150 - 160 |
| 200 | 200 | 273 | 203 | 8 | 6 | 192 - 203 |
| 225 | 200 | 273 | 220 | 8 | 6 | 207 - 220 |

table continued next page




| d [mm] | DN [mm] | D [mm] | D1 [mm] | H [mm] | H1 [mm] | di FA [mm] |
|---|---|---|---|---|---|---|
| 250 | 250 | 328 | 252 | 8 | 6 | 238 - 252 |
| 280 | 250 | 328 | 274 | 8 | 6 | 264 - 274 |
| 315 | 300 | 378 | 306 | 8 | 6 | 296 - 306 |
| 355 | 350 | 438 | 355 | 10 | 7 | 340 - 355 |
| 400 | 400 | 489 | 400 | 10 | 7 | 385 - 400 |
| 450 | 500 | 594 | 403 | 10 | 7 | 393 - 403 |
| 500 | 500 | 594 | 447 | 10 | 7 | 437 - 447 |
| 560 | 600 | 695 | 494 | 10 | 7 | 484 - 494 |
| 630 | 600 | 695 | 555 | 10 | 7 | 545 - 555 |

48 40 10




## Flat Gaskets for Full Face Flanges Drilled to BS4504 PN10/16

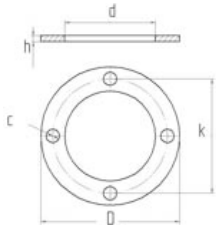
**Model:**

- For Flange Adaptors
- Hardness approx. 65° Shore

| Inch | EPDM Code | FPM Code | kg |
|---|---|---|---|
| ½ | **748 401 006** | | 0.031 |
| ¾ | **748 401 007** | | 0.037 |
| 1 | **748 401 008** | | 0.037 |
| 1 ¼ | **748 401 109** | **749 401 109** | |
| 1 ½ | **748 401 110** | **749 401 110** | |
| 2 | **748 401 111** | **749 401 111** | |
| 3 | **748 401 113** | **749 401 113** | |
| 4 | **748 401 014** | | 0.112 |
| 6 | **748 401 117** | **749 401 117** | |

| Inch | D [mm] | d [mm] | k [mm] | c [mm] | no. of holes | h [mm] |
|---|---|---|---|---|---|---|
| ½ | 95 | 17 | 67 | 15 | 4 | 3 |
| ¾ | 105 | 22 | 73 | 15 | 4 | 3 |
| 1 | 115 | 28 | 83 | 15 | 4 | 3 |
| 1 ¼ | 140 | 36 | 100 | 18 | 4 | 3 |
| 1 ½ | 150 | 45 | 110 | 18 | 4 | 3 |
| 2 | 165 | 58 | 125 | 18 | 4 | 3 |
| 3 | 200 | 83 | 160 | 18 | 8 | 3 |
| 4 | 220 | 109 | 178 | 18 | 8 | 3 |
| 6 | 285 | 161 | 240 | 22 | 8 | 3 |

48 40 10




## Flat Gaskets for Full Face Flanges Drilled to BS10 tables D and E

**Model:**

- For Flange Adaptors
- Hardness approx. 65° Shore

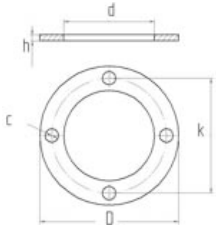
| Inch | | EPDM Code | FPM Code | kg | kg/m |
|---|---|---|---|---|---|
| ½ | | **748 401 006** | **749 401 006** | 0.003 | 0.003 |
| ¾ | | **748 401 007** | **749 401 007** | 0.004 | 0.004 |
| 1 | | **748 401 008** | **749 401 008** | 0.004 | 0.004 |
| 1 ¼ | | **748 401 009** | **749 401 009** | 0.003 | 0.003 |
| 1 ½ | | **748 401 010** | **749 401 010** | 0.004 | 0.004 |

table continued next page

| Inch | | EPDM Code | FPM Code | kg | kg/m |
|---|---|---|---|---|---|
| 2 | | **748 401 011** | **749 401 011** | 0.105 | 0.105 |
| 3 | | **748 401 013** | **749 401 013** | 0.011 | 0.011 |
| 4 | Table E | **748 401 014** | **749 401 014** | 0.015 | 0.015 |
| * 4 | Table D | **748 401 064** | **749 401 064** | 0.112 | |
| 6 | | **748 401 017** | **749 401 017** | 0.020 | 0.020 |

| Inch | | D [mm] | d [mm] | k [mm] | c [mm] | no. of holes | h [mm] |
|---|---|---|---|---|---|---|---|
| ½ | | 95 | 17 | 67 | 15 | 4 | 3 |
| ¾ | | 105 | 22 | 73 | 15 | 4 | 3 |
| 1 | | 115 | 28 | 83 | 15 | 4 | 3 |
| 1 ¼ | | 140 | 36 | 88 | 15 | 4 | 3 |
| 1 ½ | | 150 | 45 | 98 | 15 | 4 | 3 |
| 2 | | 165 | 58 | 115 | 18 | 4 | 3 |
| 3 | | 200 | 83 | 146 | 18 | 4 | 3 |
| 4 | Table E | 220 | 109 | 178 | 18 | 8 | 3 |
| * 4 | Table D | 220 | 109 | 178 | 18 | 4 | 3 |
| 6 | | 285 | 161 | 235 | 22 | 8 | 3 |

48 40 10




## Flat Gaskets for Full Face Flanges Drilled to ANSI B16.5 Class 150

**Model:**

- For Flange Adaptors
- Hardness approx. 65° Shore

| Inch | EPDM Code | FPM Code | kg | kg/m |
|---|---|---|---|---|
| ½ | **748 401 206** | **749 401 206** | | |
| ¾ | **748 401 207** | **749 401 207** | | |
| 1 | **748 401 208** | **749 401 208** | | |
| 1 ¼ | **748 401 009** | | 0.041 | |
| 1 ½ | **748 401 010** | | 0.055 | |
| 2 | **748 401 211** | **749 401 211** | | |
| 3 | **748 401 213** | **749 401 213** | | |
| 4 | **748 401 214** | **749 401 214** | 0.112 | 0.112 |

| Inch | D [mm] | d [mm] | k [mm] | c [mm] | no. of holes | h [mm] |
|---|---|---|---|---|---|---|
| ½ | 95 | 17 | 60 | 16 | 4 | 3 |
| ¾ | 105 | 22 | 70 | 16 | 4 | 3 |
| 1 | 115 | 28 | 79 | 16 | 4 | 3 |
| 1 ¼ | 140 | 36 | 88 | 15 | 4 | 3 |
| 1 ½ | 150 | 45 | 98 | 15 | 4 | 3 |
| 2 | 165 | 58 | 121 | 19 | 4 | 3 |
| 3 | 200 | 83 | 152 | 19 | 4 | 3 |
| 4 | 220 | 109 | 190 | 19 | 8 | 3 |

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Stockist

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